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A CHRONICLE OF THE HOMESTEAD, POULTRY-YARD, APIARY, & DOVECOTE.

CONDUCTED BY

GEORGE W. JOHNSON, F.R.H.S., AND ROBERT HOGG, LL.D.

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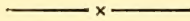
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TO OUR READERS.



THE year now closed has been to us in every sense of the adjective a Rosey year, for the dictionary defines that word as applicable to what is blooming, healthy, and cheery, and also to whatever is connected with the Rose. Now we say, without any reservation, that our pages during the past year have been enriched by our contributors with more aids to those who were in difficulties in the culture and exhibition of the Rose than were ever published before by any horticultural journal. Moreover, continuing still to refer to the term Rosey, we gratefully add that our progress merits the term.

To afford information needed by a numerous class of our subscribers we shall add a department "The Home Farm," which we know will be enriched by the meritorious writings of our contributors; and to them, with the Spanish wish, "May their shadows never grow less," once more thanks are given sincerely by

THE EDITORS.

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WEEKLY CALENDAR.

Day of Month.	Day of Week.	JULY 5—11, 1877.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.			
5	TH	Chelmsford Show.	71.1	50.2	63.7	3	53	8	16	11	44	2	32	24	4	17
6	F	Tunbridge Wells and Hereford (Roses) Shows.	71.1	50.2	63.7	3	53	8	16			3	55	25	4	27
7	S	Brockham (Roses), and Southgate Shows.	76.0	50.8	63.4	3	54	8	15	0	6	5	18	26	4	37
8	SUN	6 SUNDAY AFTER TRINITY.	73.7	50.8	62.2	3	55	8	15	0	39	6	36	27	4	47
9	M		74.0	50.0	62.0	3	56	8	14	1	28	7	42	28	4	56
10	TU		74.1	49.4	61.8	3	57	8	13	2	37	8	30	29	5	4
11	W	Enfield, Maldon, and Ealing Shows.	74.7	50.3	62.5	3	58	8	12	4	4	9	8	30	5	13

From observations taken near London during forty-three years, the average day temperature of the week is 73.6°; and its night temperature 50.1°.

SPECIAL SHOWS.

IUST as well-managed local horticultural societies stimulate and encourage cultivators in the districts of such shows, so in like manner do special shows promote the more extended and perfect cultivation of that which they were intended to assist. A national horticultural society, however strong it may be, will never of itself be able to satisfy the wants of the scattered thousands who are identified with horticultural pursuits; but a strong central society, with many branches in alliance, is capable of affording valuable aid on various subjects connected with horticulture. A central society may do much good without the aid of district branches, and local societies may also exert a beneficial influence without being in connection with a central head; but both may do more by alliance—the “national” gaining strength by the ramification of its branches, the “locals” gaining influence from their association with the central head.

We should like to regard horticulture as an invading army already established in our land, and seeking to conciliate and render loyal every portion of the community. To that end there must not only be an authoritative central body, but many outlying battalions, each of them strong enough to act alone, yet having a consciousness of greater strength by the support which is in reserve in the other branches of the confederacy. To render the work effective there must necessarily be special efforts made for a special purpose, each important and an integral part of a general design. The more perfect are the several parts and the working of them the more perfect must be the aggregate. It is only by giving special attention to details that a great object can be successfully carried out, whether that object be one of war or peace. The object of the present invasion is emphatically an object of peace. It is the extension of an important industry, the good influences of which are far-reaching. It is the dissemination of that which conveys healthy enjoyment, wholesome gratification, domestic comfort and benefit not only into every city, town, and village, but almost into every home. It is to perfect the fruits of the earth, to bring forth the beauties of Nature in all their fulness, and enable them to be enjoyed by the greatest number. That is the object of the campaign—an object both great and good, so great as to demand all the efforts both of a general and a detailed nature which can be utilised on its behalf—so good that the pursuit is worthy of the countenance of the most enlightened and refined.

The various special societies (with special shows resulting) which are now established are from their prominent position proper objects for criticism, and it is not to be expected that all who are interested in floriculture will place the same estimate on their merits. It is not possible that this can be so, for nearly all of them can be viewed from two distinct standpoints. These special societies can be regarded as “splits” from, and antago-

nistic to, a general central national society; indeed they have been so described in a manner that caused some surprise, and the more so when their tendency was stated “to degrade horticulture.” To that conclusion we certainly cannot give our assent. We do not regard special societies as splits from, but units in the great system of horticulture. By perfecting the several details of a work the whole is being done, and done in a manner that could not be effected so well by any other means. If the members of any of the special societies now established—the Rose, Pelargonium, Carnation and Picotee, Auricula and Polyanthus, Tulip, even the Potato societies—concentrate their efforts on the perfecting of that with which they are identified are they engaged in an ignoble cause? and yet they must be if the tendency of such societies is to degrade horticulture. It is easy to find fault—easy to say that the Rose needs not a society to support it, as it is strong enough and popular enough without special aid; and equally easy to say that the Auricula is not of sufficient importance to have special patronage bestowed on it because so few are identified with its culture. It is easy to criticise, too, for the purpose of filling-up space, which is, perhaps, generally the object when fault is found and errors are not defined. But such criticism carries no weight and goes for nothing with those who understand it and the feelings by which it is prompted.

But the Rose, notwithstanding its great popularity, has during recent years proved itself to be amenable to so great improvement that it not only merits but demands special attention in order that it may unfold new and greater beauty than before, and find still more numerous patrons. So with the Pelargonium: also equally if not more so with the Carnation and Picotee, and the Auricula and Polyanthus. Than these flowers none are more beautiful, none better deserve encouragement, and none will give greater reward for any special efforts which may be made in their behalf—efforts which are specially needed. All who are engaged in improving and extending the culture of those and other florists’ flowers are engaged worthily, for they are prosecuting in detail important branches of floriculture which must improve the aggregate of horticultural work.

Yet while granting the usefulness and importance of special societies as the working units inseparable from a great system, the object of which is higher culture and a widening of public interest in floricultural pursuits, the medal has an obverse, and this we shall not shrink from examining. In societies having a defined object—the cultivating and perfecting of a particular flower—special rules become necessary for judging that flower. A standard is determined on—a charmed circle drawn, the flower is adjudicated on in obedience to that rule, and it must not by any erratic freak trespass beyond the circle—its little world which its friends have created for it. We find no fault with that arrangement. It is right in itself. A standard must be fixed, and it must be a high one. But we will ask this question, What of the flowers beyond—just outside the circle, just below the florist’s standard? Take the Rose, for instance, which

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was in royal session yesterday at the splendid and successful Show of the rejuvenated National Rose Society. What has been the cost of that Show and what its results? Eleven months of care, of watching—pleasurable care no doubt—and almost a chance fixture, has brought the identical Roses to the front which all rosarians knew would receive high honour. With that result, from a rosarian point of view, we are satisfied. We as rosarians prepare for eleven months of labour, and do not expect more than one month of perfect beauty—of shows. The Roses which win our prizes, those noble blooms, have their fame spread throughout the land; and the million of Rose admirers—not rosarians, mind—preserve the names of the prize-winners and order the varieties to make their gardens beautiful and sweet. They dig-up their old trees—those trees which have yielded them blooms for years, and it may be many months in the year—to make room for the new. The nursery-men do the same—they are obliged to do so; and hence the old Roses, the grand old garden Roses which produce hundreds of blooms—small they may be, but they are Roses—lovely, hardy, continuous, and sweet: ought they to become extinct? We think not; and we know, for we have had the best proof of it, that there are many who think with us. Where there is one cultivator of Roses whose chief object is to grow them for exhibition, there are ten who grow them for garden decoration. Many exhibition Roses we are well aware are eminently suitable for garden decoration, but not by any means all of them are. Some of the leading varieties are capricious—"grand when caught." But there are many old Roses which are wholly unsuited for the exhibition stand, yet which never fail to charm in the garden. It is these garden Roses which are becoming scarce. We fear the Rose societies cannot encourage them: they are beyond their pale, but not beyond their influence. We can only appeal, therefore, to Rose admirers who are not exhibitors to cherish the delightful garden Roses, and we advise them not to destroy the old before they have proved the new.

We would refer to other florists' flowers, but space forbids—to the beautiful, but sometimes "miffy," Carnations; to the ostracised Auriculas, especially the Alpines which are so beautiful in the garden, and—perhaps because of it—so vigorous; to the Polyanthus, amongst which those which adorn the garden the most effectually cannot have honour at the shows. All the more reason therefore to honour them in the garden, to improve, and cherish, and preserve them there. Let exhibitors grow and show their flowers with all their ardency and all their skill, they are engaged in a right good work; but forget not the flowers of home—the free, gay, and sweet garden flowers.

There yet remains another feature in connection with special shows that we would notice. It is an important one—even the specialists themselves. Their special knowledge—their advantages—their power are great. Let them wield their strength wisely, considerately. They "mean well," but their earnestness is not always understood by outsiders. A sentence from a letter which we received the other day is illustrative of our meaning. The writer refrained from saying what he wished because, as he said, while Mr. — was no doubt a "good sort," he was "terribly touchous."

SEASONABLE NOTES ON GRAPE-GROWING.

No plant requires less attention than the Vine when it is leafless and at rest, and there are few with greater demands when it is in full growth. We are now in the midst of the Vine-growing season. It is an interesting time in the viney when the bunches are forming, and it is surprising how very rapidly the small bunches increase as the berries begin swelling. This year no person who saw our Hamburgs before they came in flower would have cared to stake their life that one bunch would have weighed over 3 lbs., and now I venture to say that some of them would turn the scales at 5 lbs., if not 6 lbs.; but I rather suspect there is a good reason for this increase of weight, and it is easily explained. Every time the Vines have been watered they have received abundance of strong liquid manure—made not with chance refuse, but the real pure pig and cow dung. I have ceased using guano for Vines, and nearly for everything else. The manure above mentioned is far cooler and much more nourishing.

Nothing more distressing can be seen about a garden than Vines starving for want of food, and it is a melancholy fact that thousands of Vines are actually starved into unfruitfulness. Let barren Vines of last and former years have an unlimited supply of liquid manure for the next two months, and if they

do not improve in leaf and wood and become more fruitful next year they will be different to any I have ever had to deal with. This is all I intend saying about the roots at present; and I now come to what may be considered by Grape-growers generally, but more especially amateurs, to be the leading question at this period of the year.

Ever since I can remember reading the Journal the numbers in June and July have always contained many answers to correspondents on Grapes scalding, and information seems as much sought for this year as formerly; and I must say I am not surprised at this, as it is a matter quite capable of creating great concern. Still, scalding is not always a sign of bad Grape-growing, as the worst case of it I ever saw was with one of your "crack" market growers near London, but I am inclined to think it is the result in a great measure of casual neglect. My own opinion is that the evil does not come from the roots, but rests in the state of the atmosphere. It is not always the berries unshaded from the sun that become first affected; on the contrary, those under the thickest shade often suffer severely. Where ten berries would scald in a close moist warm atmosphere not one would do so in a cool or comparatively cool dry place. The worst cases of scalding I have ever witnessed always occurred in houses where there was much fire heat and sun heat combined. Any person could scald the half of the berries in their house simply by having the pipes hot in the morning and not admitting much air until the temperature rises to about 90°. This will produce a dew on the Grapes, and then they are prepared for scalding.

Some people appear to have an idea that Grapes cannot be grown without fire heat, and, no matter how hot the day may be, the pipes must be hot also; and as for allowing them to pass one night without fire, it is entirely out of the question. That is an expensive waste of coal, and it does no good whatever to the Vines or Grapes. We have a large Hamburg house in which the Vines were in bloom by the end of April. The Grapes are now nearly half swelled and looking extraordinarily well, and all the coal that has been used to supply them with artificial heat does not exceed two barrowloads. Fire heat is never used unless in a wet day, and it will not be used until it is necessary to prevent the ripe fruit from damping. Still the temperature is never very low at night, as we always close the ventilators early in the afternoon, and the sun heat does not all escape until the lights are opened the following morning.

Nearly all Grapes have been thinned, but wherever it is seen that the berries will be crowded when ripe go over them at once and clip them out, so as to leave the bunches looser. We did this to a house of ours a week ago, and the bunches are now filled up as if they had never been touched; but no more will be cut out of them, as they will soon be ripe and cease swelling.

As yet there is not a single red spider on one of the Vines, and this I attribute to giving plenty of water at the roots and keeping the atmosphere sweet, moist, and healthy, combined with little or no fire heat.

Vines are not making young wood so fast now as a month ago, but they are still forming leaves; but they must never be allowed to become large, or they may shade a bunch or a few berries while they are tender, and then by removing the leaves the sun strikes strong on the previously shaded parts and often does damage.

I never shade a Vine from the sun with any covering on the outside of the glass. A Vine, provided it is well watered at the roots, will withstand as much heat or sunshine on its leaves as an Oak will; and wood ripened, or rather browned, in the shade will bear no comparison with that ripened under full sunshine.—A KITCHEN GARDENER.

ROSE SHOWS.

I did not go to the Crystal Palace on the 23rd. Amongst other unacceptable economies they had left out of their schedule the twelve for amateurs, which suited many to whom the twelve triples is too formidable.

"Vessels large may venture more,
But little boats must keep near shore."

One thing they may be congratulated on, and that is having gone back to the one-day show. The Press deserves great credit for the prompt manner in which the two-day enormity of last year has been protested out of existence.

I did go to Maidstone, and a very pleasant and creditable little Show it was. They did not do things, indeed, quite in the

grand style of last year, so attracting all-England prizetakers that Maidstone was voted the best Show of the season—a grand style of scheduling that I fear must have proved rather costly to the Committee. This year the Show was confined to members only. The competition for the challenge cup was spirited, and some good Roses were shown, as also especially in the class of twelve triplets of any kind. Owing to a liberal gift from Mr. George Paul of Cheshunt, four prizes were offered both for twelve and six Teas, and the show of them was very fine. Maidstone in its happy valley must be a paradise of Tea Roses, judging from those exhibited, and is likely, I think, to make these famous before long beyond its own borders.

Reynolds Hole was, perhaps, the best H.P. in the room. The Cheshunt Hybrid was also shown in great perfection. The Briar stock is the favourite in their strong soil. But I do not think the state of Rose-growing altogether satisfactory.

That is a very grave subject which has been started respecting breeding in-and-in by budding, and I incline to think threatens a serious deterioration. It might be discussed with great advantage.—A. C.

EARLY SUMMER FLOWERS.—No. 2.

COLLECTORS of every species and variety of hardy Rhododendrons tell us that there is hardly a month in the whole year when some species or other is not in bloom. Admitting this highly important fact, it must still be granted that it is in early summer that most varieties appear in the full splendour of their regal beauty, giving us such rich masses of colour as we obtain from no other shrub. With all this richness there is nothing glaring, nothing oppressive, when a little pains is given in the first instance to arrange the various colours in graceful combinations—softening the brilliancy of the scarlet-tinged Alarm with the rich purple of Sir Thomas Sebright; relieving this in turn with the delicate white of Mrs. John Clutton, and thence onward through an infinite gradation of shades of white, pink, scarlet, crimson and purple—never in any case affording an unbroken mass of colour, for we find in such mixed beds that every sort does not yield blossom in equal abundance, some answering best in one season and some in another, some plants of a foot or two in height being laden with flowers, while others do not blossom freely till they become large plants. Nor is this want of uniformity to be regretted, the dark green patches of foliage interspersed among the flowers imparting relief and repose in the most agreeable manner. Nature's own foil is always the best.

Some valuable lessons have been had this season in making a study of the effects of the different colours; and I may usefully note here that the most distinct and striking shades are most telling when well placed in the margin and centre of a group, either singly, as is best in small groups, or clumps of three or four in large bold ones. Lists of such sorts are more useful in the autumn than now; but I cannot refrain from pointing out the great value of the dark crimson John Waterer, the rosy crimson Blandyanum, the rich purple Barclayanum, a somewhat shy-flowering variety when the shrubs are young, but growing more and more lovely as they increase in size, many of them this season being one mass of flowers; and such kinds of lighter hue as the old Queen of the West, Minnie, Purity, and Delicatissimum. Much caution should be exercised in discarding any old sorts, many of them possessing some property of earliness, lateness, or continuity of flowering not always found in newer kinds.

The hardy Azaleas are again very beautiful. I only wish the flowers were a little more durable. Many of them were originally planted as a fringe to some clumps of Rhododendrons. This proved a mistake, and last winter they were arranged in separate beds alternating with others of *Kalmia latifolia*, some beds consisting solely of the various shades of Azalea pontica, and others having a mixture of more choice named varieties. These beds have been very telling, the effect being much enhanced by the proximity of large masses of Rhododendrons. Considerable difference is found among these hardy Azaleas not only in colour but in habit of growth. The dwarf compact growth of the brilliant orange-coloured *Majestica* renders it very valuable for many a nook and corner as well as for the margin of shrubby borders. The rich yellow of Nancy Waterer is never more effective than when placed near masses of crimson and purple Rhododendrons; while such lovely sorts as the pink-flowered *Monterii*, *Amœna* of a lighter shade; *Straminea*, delicate straw colour; *Mirabilis*, another pink kind; *Viscocephala*, white; with the lovely old sulphury

white *Pontica alba*, the deep crimson *Géant des Batailles*, *Gloria Mundi*, and *Ne Plus Ultra* with deep rich orange flowers, all tell well in whatever position may be assigned them.

So many shrubs are in flower just now, and all are so beautiful that one hardly knows which to select, or rather which to leave unmentioned. Of the *Kalmias*, *glauca*, in full beauty a month or more ago, is a distinct and valuable early sort; *angustifolia rosea*, *rubra*, and *nana* are all now in full beauty; while the flowers of the queenly *latifolia* are only just beginning to expand. Nothing can be more lovely than a plant of *Kalmia latifolia* just bursting into flower: the thousands of clustering pink-tipped buds springing out of the dark green glossy foliage impart to the plant a sprightly air most pleasant to behold, while not less enjoyable is the sight of the cloud of bloom into which they soon expand.

The pendant golden flowers of the *Laburnum* just fading away have imparted their peculiar charm of grace and brightness to the shrubs among which they grow. *Lilacs*, pink *Thorns*, *Guelder Rose*, *Magnolias*, *Snowy Mespilus*, *Berberis*, *Daphne*, *Ribes*, *Philadelphus*, and some of the *Spiræas* have all lent their charms, not singly but in many varieties, all being good; but especial attention should be given to *Philadelphus grandiflorus* with very large white flowers, an immense improvement upon the old small-flowered sort. The very dark scarlet *Ribes atro-sanguineum* proves a most valuable and effective variety, as does also the double-flowered variety, coming into bloom so late as to form a succession to the single-flowering shrubs.—EDWARD LUCKHURST.

PORTER'S EXCELSIOR POTATO.

ALTHOUGH not an extensive grower of novelties I yet like to try, in a small way, some of the new Potatoes as they come out; and amongst others last spring I procured 1 lb. of Porter's Excelsior for trial. One tuber was decayed and worthless; the others were cut into nine sets to suit the length of drill, as they were simply for comparative trial and not for special increase. This row is between Fenn's Early Market and Lye's Favourite, and is very distinct from these varieties; but unfortunately the plants are distinct from each other, although a casual observer might not detect the difference. As I never before saw the sort growing I must apply to head quarters for information. One variety of four sets has a smooth and shining leaf; the lower and first-formed leaves being rounded like an Ashleaf Kidney, but of much lighter colour; whereas the other variety of five sets has longer, darker, and more corrugated leaves, which are shaded off from a light centre at the shoot, while none of the lower leaves are so round as an Ashleaf. Which is the true Excelsior? It may be stated that these Potatoes were supplied by a firm of high standing.—N.

EXHIBITION ROSES.

MR. GEORGE PAUL's catalogue is divided into three parts: the first part contains a list of Roses suitable for exhibition, the second of Roses suited for garden decoration, and the third part consists of new Roses, Teas, and Noisettes.

Now this is a very useful division, as is evident when we remember how many cultivators of the queen of flowers regard it as principally an exhibition flower, while a still larger number care not the least for exhibitions, but wish to have their gardens full of free-blooming and good growing sorts of fair form and colour, while they pay great attention to the fragrance of the various varieties. Of course this division is a help to young beginners who wish to go in for exhibiting, but at the same time it is not strictly and solely to be relied on, and must not be too closely followed. There are an immense number of Roses in the first division which, while not unworthy altogether of their position, would in my opinion be best relegated to the second division, and every year I notice that some old favourites are thus reduced in position, notably *Comtesse Cécile de Chabrillant*. This old variety has perfect form, but so rarely has sufficient size for a prize stand that Mr. Paul, while no doubt fully recognising its value as a Rose for all other purposes, hardly deems it worthy of a place in his select list. But I would humbly offer my opinion to him and others that the list as it at present stands is far too large and requires much revision. There are so many which I may call duplicates that had far better not be in it. Take, for example, these three Roses, all good in their way, but all so much alike that you might often cut three blooms from the

same tree and show them in the same stand under the names of Exposition de Brie, Ferdinand de Lesseps, Maurice Bernardin. Of these I suppose it will be granted that the one first named is the best, but a tyro reading the catalogue would see there those Roses spoken highly of, and would think it necessary (if he desired to be an exhibitor) to buy them all; and as he will find it necessary to have at the very least twenty of each sort, he will be spending three pounds where one would be sufficient.

Then take another instance. Mdlle. Eugénie Verdier has long held the foremost rank among light Roses, when of late years another Rose almost identical in form, entirely so in colour and wood, is sent out and retains her position as an exhibition flower. This Rose (Mdlle. Marie Finger) only differs from the former by not being quite so globular in form—that is, taking Eugénie Verdier at her very best, but an average Rose of this variety cannot be distinguished from Marie Finger. It is, of course, greatly to the advantage of the nurseryman that these Roses should continue to hold their position in the lists, because in a stand of seventy-two they are most valuable. In one row Eugénie Verdier makes a most delightful contrast in the midst of crimson and dark Roses, while Mdlle. Marie Finger fills the same good office in another part. But amateurs should be warned by someone against purchasing duplicates, unless they wish the Roses to perform the same good office for themselves.

Now as to exhibition Roses, if I were to give a list in this paper I should merely have to copy out the list I sent in at the Rose election, and it would be a little wearisome to read over a long list of names, which any one can easily do by purchasing the number of the Rose Journal that contains the lists. All that I can do in this letter is to give the names of some superexcellent Roses which must be cultivated by exhibitors.

First, then, let me say something about Roses recently introduced by our great English nurserymen. I believe never was the Rose world so rich with English-raised Roses as now. Take first Mr. George Paul's Marchioness of Exeter, Dr. Hooker, Empress of India, Sultan of Zanzibar, Wilson Saunders, and Duke of Connaught. All these are splendid Roses. Then next look at Mr. Turner's list:—Royal Standard, a grand Rose, having perfect form and good colour; Miss Hassard, Oxonian, Rev. John B. M. Camm, and others which I have not proved. Mr. Cant has not done much with seedlings yet, but he has lately brought out one good one called Prince Arthur. This is rather like the Duke of Edinburgh in colour, and resembles in form Général Jacqueminot, and I think it will prove to be a valuable Rose. I saw a splendid bloom of it in Mr. Cant's nursery. Mr. Cranston has sent out one good Rose—Sir Garnet Wolseley, but I do not know of any more except some climbing Roses; but all these English-raised Roses are worth growing, and no exhibitor should long be without them.

Concerning older Roses fit for exhibition, much, very much, can be written, and the only question is where to begin and where to leave off.

Amateurs are never called upon to show more than forty-eight, and this is almost too large a number for anyone but giants like Hercules and Mr. Jowitt. To show this number, however, calculating, too, upon there being eight Teas in the stands, an amateur should cultivate about sixty sorts; for some varieties of Roses bloom far too late in the year to be of use for most of the shows, such as Emilie Hausburgh, while others are completely over for the later shows, as Mons. Noman, Abel Grand, &c., so that it is necessary to have double the number of sorts in cultivation to what you are called upon to exhibit.

Of white Hybrid Perpetuals the best undoubtedly is Marquise de Mortemart, but this is such an exceedingly shy bloomer and such a weak grower that you can scarcely ever depend upon it. The next best is Madame Lacharme, then Boule de Neige, Madame Noman, and Reine Blanche; but the last two I do not grow.

Of blush Roses undoubtedly Madame Rothschild is the best, then Marguerite de St. Amand, Duchesse de Vallombrosa, Madame Vidot, and La François; of this last I know nothing from experience, as I do not grow it, but it was shown very fine at the Crystal Palace.

Of the next shade in colour (rosy blush) La France is the best, then Eugénie Verdier, Abel Grand, and now and then Captain Christy will give a fine bloom, but I do not recommend anyone to grow it.

Of pink and rose-coloured Roses Marquise de Castellane, Mons. Noman, Mdlle. Marie Cointet, and Emilie Hausburgh. Among crimson and cherises stand pre-eminent Marie Baumann, Alfred Colomb, Dupuy-Jamain, Beauty of Waltham, Madame Victor Verdier, Dr. Andry, and a host of others.

Of the darker varieties Charles Lefebvre still holds his own, but is close pressed by Lord Macaulay, Horace Vernet, Ferdinand de Lesseps, and many more; while of the very dark Roses Xavier Olibo (a wretched grower), Louis Van Houtte (ditto), Duke of Wellington, Prince Camille de Rohan, and Fisher Holmes must all be cultivated.

I have endeavoured to class the very best sorts according to their colours, and I hope that the above will be useful to some few of your readers, and who may wish next autumn to buy some of the very best Roses. It would be wearisome to your readers to name all the sorts, even if you had space, so those only are named which are the best examples of their class, according, that is, to the best of the belief of a—WYLD SAVAGE.

ALEXANDRA PALACE ROSE SHOW.

JUNE 30TH.

SEVERAL days of fine weather, a fortunate fixture, and a liberal schedule combined to render the Exhibition a good one. Indeed, considering the unfavourable Rose season—winter almost entirely overlapping spring, and summer coming in with a bound—the display may be described as excellent. That it would be equal to the last Rose Show that was held in the large concert hall of the Palace could not have been expected, for that Exhibition was the best that was held during a much better "Rose year" than this is. On Saturday there were some rather wide gaps in the four long tables in the body of the hall and the two side tables when the blooms were judged; but by regularly distributing the boxes the blanks were not greatly "felt." The concert room is a capital place for a Rose show, its subdued light showing the colours of the blooms to advantage, and preventing them also rapidly expanding. A little more light on Saturday would, however, have been an improvement. It was an enjoyable Show and well arranged, and Mr. McKenzie and his assistants left nothing wanting on their part to render the day a pleasant one to all. The Show was crowded with visitors during the afternoon.

The nurserymen exhibitors took a distinct lead both in the size of their blooms and the quality of them. Some amateurs undoubtedly exhibited well, notably Messrs. Baker, Jowitt, and Camm, but the majority were not in "good form." The brothers Gayter, the renowned "growers" for Messrs. George Paul and Turner (and than whom few are more competent to speak on the matter), do not regard the present as a good "amateurs' year," as only maiden plants can be relied on for splendid blooms, and of those plants there is obviously not the same choice in private as there is in trade collections.

The first and the principal class was for nurserymen, seventy-two varieties, single trusses. There were five competitors, four of whom were awarded prizes. Messrs. George Paul & Son, Cheshunt, were placed first; Mr. Cant, Colchester, second; Mr. Keynes, Salisbury, third; and Messrs. Cranston & Mayos, Hereford, fourth. The Cheshunt blooms were unquestionably the finest. Amongst them we noticed François Michelin, grand, certainly the premier bloom of the Show; Centifolia rosea in the true Cheshunt style; Mons. E. Y. Teas, a fine example of a promising Rose; Margaret Brassac, like a perfect Charles Lefebvre; Miss Hassard and Madame Lacharme, good; Emily Laxton, a lovely bloom, with wonderful foliage; Wilson Saunders, rich and full; Duchesse de Vallombrosa, excellent, as also were Marquise de Castellane, Jean Liabaud, Sénateur Vaisse, Marquise de Ligneris, Princess Beatrice, Charles Lefebvre, Felix Genero, Maréchal Niel, Baron de Bonstetten, Abel Carrière, La Rosière, Thomas Mills, Fisher Holmes, and the Duke and Duchess of Edinburgh—a collection of great weight and quality. Mr. Cant staged very fresh medium-sized blooms with good foliage. Madame Lacharme was perfectly lovely, as also was Souvenir d'Elise, Devonensis, Madame Willermoz, and Mdlle. Marie Finger; and in extremely fine condition were Madame Annie Wood, very bright; Louis Van Houtte, splendid; Sir Garnet Wolseley, Duchesse de Vallombrosa, Star of Waltham, Prince Arthur, very bright; and Xavier Olibo. This collection was rightly placed second, although it was closely run by Mr. Keynes's excellent contribution. Many of the blooms in the Salisbury stands were very perfect. François Michelin was again pre-eminent, Etienne Levet the finest bloom of that fine variety in the Show; Beauty of Waltham, Duchesse de Vallombrosa, Mons. E. Y. Teas, good again; Louis Van Houtte, excellent; Felix Genero, Mdlle. Eugénie Verdier, Madame Lacharme, and La Rosière were all in fine condition. The best Teas, and good they were, were Madame Bonnaire, Souvenir d'Elise, Marie Van Houtte, Madame Sertot, Niphotos, and Devonensis. Messrs. Cranston & Mayos' collection was also a capital one.

Etienne Levet, Comtesse d'Oxford, and La France were splendidly shown.

In the class for forty-eight varieties, three trusses of each, there were five competitors, and the prizes were awarded as follows:—First, Messrs. G. Paul & Son; second, Mr. Turner, Slough; and third Mr. Keynes. Messrs. Paul's were the largest blooms, a few being flat and inclined to coarseness; but the majority of the triplets were good, notably Emily Laxton, Madame Lacharme, fine; Mons. E. Y. Teas, splendid; as also was François Michelin. Excellent were La France, Marguerite de St. Amand, Edouard Morren, Cheshunt Hybrid, Maurice Bernardin, Exposition de Brie, Duchesse de Vallombrosa, Mlle. Marie Cointet, Nardy Frères, Etienne Levet, Marquise de Castellane, Ferdinand de Lesseps, Julie Touvais, Annie Laxton (admirable), Mad. Prosper Langier, Beauty of Waltham, Mlle. Marie Finger, and Victor Verdier. Mr. Turner staged blooms a trifle smaller, but remarkably fresh and of undeniably excellent quality. Maréchal Niel, Sir Garnet Wolseley, François Louvat, Mons. E. Y. Teas, fine; Mrs. Baker, excellent; Marie Baumann, splendid; Baron de Bonstetten, large and rich. Madame Lacharme, Princess Beatrice, Etienne Levet, and Exposition de Brie were all in excellent form. Mr. Keynes also staged an extremely good collection.

In the class for twenty-four varieties, Hybrid Perpetuals (trebles), Mr. Cant won premier honours with a beautifully fresh and good collection. Madame Lacharme was very perfect, and not less so were Abel Grand, Maurice Bernardin, Victor Verdier, Ferdinand de Lesseps, Beauty of Waltham, Etienne Levet, Marie Baumann, and Mons. Noman. Marquise de Mortemart was conspicuous in this collection. Mr. Turner was second with medium-sized blooms, very regular and very fresh. One of the most striking triplets in the stand was La Rosière. Oxonian, Madame Lacharme, Etienne Levet, and La France were very perfect; and very good were Victor Verdier, Charles Lefebvre, Baronne de Rothschild, and Madame E. Verdier—an admirable collection. Messrs. G. Paul & Son staged a capital collection and secured the third place. Mr. Keynes was awarded a fourth prize for large and excellent blooms, which had they been judged an hour earlier would have had a higher position.

In the class for twenty-four varieties, single trusses, there were six competitors. Mr. Turner was a clear winner, his blooms being of good size, yet perfectly fresh and in excellent colour. Maréchal Niel, Madame Lacharme, Mrs. Baker, and Comtesse d'Oxford were splendid. Mr. Keynes was placed second with larger blooms, but some lacking freshness; but these were not Madame Lacharme, Felix Genero, Etienne Levet, Mons. E. Y. Teas, and François Michelin, which were almost perfect. The third prize went to Messrs. Cranston and Mayos. Reynolds Hole in this collection was very rich. Mr. Cant had the fourth prize.

Twelve Tea-scented and Noisette Roses.—In this class there were four competitors. Messrs. J. Mitchell & Sons, Piltown Nurseries, Uckfield, were placed first with a really charming collection. The blooms were stout, smooth, and fresh; just three-quarters open, when Teas are so attractive. The varieties were Souvenir d'un Ami, Souvenir d'Elise Vardon, Maréchal Niel, Boidron, Moire, Madame Margottin, Madame Willermoz, Catherine Mermet, Souvenir de Paul Neron, Comtesse Ovaroff, Marie Van Houtte, and Jean Pernet. Messrs. G. Paul & Son were second with rather larger blooms, some fully too much expanded. Rêve d'Or was grand, and excellent were Narcisse and Cheshunt Hybrid. Mr. Keynes had the third prize, and an extra prize was awarded to Mr. Turner. The Teas, both in this and the amateurs' class, were much and deservedly admired by the visitors.

We now come to the amateurs' classes. For forty-eight varieties, single trusses, there were eight competitors. R. N. G. Baker, Esq., Heavitree, Devon, had the premier place with wonderfully fresh and beautiful blooms and splendid foliage. It is difficult to note the best when all were good, and not necessary to do so since it would be a repetition of those named in the nurserymen's classes. The Teas, however—Marie Van Houtte, Madame Caroline Kuster, Catherine Mermet, Madame Bravy, Madame Margottin must not be passed in silence. Mr. T. Jowitt, the Old Weir, Hereford, was placed second with a collection of nearly equal excellence. It is not too much to say that some judges would have placed it first. Freshness, however, turned the scale in Mr. Baker's favour, and we think rightly, for while some of Mr. Jowitt's blooms were undoubtedly grand, others were past their best. Rev. T. H. Gould, The Vicarage, Mortimer, Berks, was placed third. Prince Arthur in this stand was splendid, and many others were good, but many bore the marks of inclement weather; and Mr. Joseph Davis, Wilton, Wilts, was fourth.

For thirty-six varieties, single trusses, there were seven competitors, Mr. R. N. G. Baker being again in the foremost place. The best bloom in the stand was La France; but very attractive were Mlle. Eugénie Verdier, Ferdinand de Lesseps, Camille Bernardin, Marquise de Castellane, John Hopper, and Madame Caroline Kuster, lovely. Mr. J. L. Curtis, Chatteris, Cambridge-

shire, was second with generally larger blooms. The most noticeable were Marie Van Houtte, Maréchal Niel, La France, Mons. Noman, Belle Lyonnaise, Triomphe de Rennes, and François Louvat—a capital collection. Mr. Davis, The Square, Salisbury, Wilts, was third. This stand contained many excellent blooms; in fact, the three prize collections in this class were of nearly equal merit. A fourth prize was worthily awarded to Mr. Hollingworth, Turkey Court, Midsstone, for large but fully too much expanded blooms. Mr. Harrington, gardener to E. Mitchell, Esq., Gerpens, Corbetstay, Essex; and Mr. Chard exhibited well in this class.

In the amateurs' class for twenty-four trebles the prizes were awarded as follows:—First, Rev. J. B. M. Camm; second, Mr. Baker; third, Mr. J. Davis; and fourth, Mr. Hollingworth. There were eight competitors. Mr. Camm's collection was decidedly the best. The dark varieties—Horace Vernet, Prince Arthur, Maurice Bernardin, and Xavier Olibo were particularly fine. Mr. Baker's blooms were rather irregular but very fresh; and Mr. Hollingworth's were generally too much expanded.

For twenty-four varieties, single trusses, there were seven competitors. Mr. Smallbones, Chatteris, Cambridgeshire, was placed first with excellent examples of La France, Maréchal Niel, and other popular varieties. Mr. Atkinson, Brentwood, was second with a fresh, excellent, and well-staged collection. Mr. Mayo, Oxford, was third; and Mr. Wakeley, Sittingbourne, fourth.

Twelve Roses, single trusses. The prizes were awarded as follows:—First, Mr. J. H. Pemberton, The Round House, Romford; second, Mr. John Wakeley; third, Mr. J. Tranter, Upper Assenden, Henley-on-Thames; fourth, Mr. H. Atkinson, Brentwood. Mr. J. T. Smallbones and Mr. A. Evans, Marston, near Oxford, receiving extra prizes. Mr. Pemberton staged charmingly fresh and perfect blooms of Madame Lacharme, Prince de Portia, Edouard Morren, Duke of Edinburgh, Maréchal Niel, Sénateur Vaisse, Baronne de Rothschild, Charles Lefebvre, and Belle Lyonnaise. Mr. Wakeley's blooms were also good, and Mr. Tranter staged the best bloom of Maréchal Niel in the Show. It was an excellent class, with thirteen competitors.

In the amateurs' class for twelve Tea-scented and Noisette Roses, single trusses, the prizes went—first to Mr. J. H. Pemberton, second to Mr. C. Davis, third to Mr. J. Hollingworth, fourth to Rev. J. B. M. Camm; Mr. J. W. Chard and Mr. R. N. G. Baker receiving extra prizes. The best blooms in Mr. Pemberton's stand were Madame Bravy, splendid; Catherine Mermet Rubens, Alba rosea, and Belle Lyonnaise. In Mr. Davis's stand Marie Van Houtte, Perle des Jardins, Rubens, Caroline Kuster, and Bongère were in excellent condition. Mr. Hollingworth's blooms were small but very lovely, and Mr. Camm's had been rather shaken in transit.

The following were open classes:—For twelve Roses of 1875, 1876, or 1877, Mr. Turner won with the following varieties in grand condition:—Madame F. Janin, Duchesse de Vallombrosa, Col. de Sansal, Royal Standard, Jean Liabaud, Miss Hassard, Mrs. Baker, Rev. J. B. M. Camm, Oxonian, Dean of Windsor, Star of Waltham, and Mons. Fournier. Messrs. G. Paul & Son were second with Star of Waltham, Emily Verdier, Miss Hassard, Madame Prosper Langier, Marguerite Brassac, Emily Laxton, Madame F. Janin, Marchioness of Exeter, Oxonian, Jean Liabaud, Duchesse de Vallombrosa, and Sir Garnet Wolseley. Some of the blooms were rather too much expanded. Mr. Keynes was placed third in this class, and Mr. Piper, Uckfield, fourth with nearly the same varieties as those above named, the exceptions being Marquis of Salisbury, Peach Blossom, Miss Poole, Beauty of Waltham, Reynolds Hole, and Cheshunt Hybrid.

For six trusses of any Rose of 1875, 1876, or 1877 Messrs. G. Paul & Son were first with Emily Laxton in admirable condition—a medium-sized but fine Rose. Mr. Turner was second with Miss Hassard, also a fine Rose; Mr. Cant third with Duchesse de Vallombrosa, rather small; and G. Paul & Son fourth with Marchioness of Exeter, fine full blooms.

In the class for eighteen English-raised Roses in commerce Messrs. George Paul & Son won with Emily Laxton, Bessie Johnson, Cheshunt Hybrid, Miss Hassard, John Hopper, Edouard Morren, Princess Beatrice, Annie Laxton, Princess Mary of Cambridge, Duke of Edinburgh, Miss Poole, Beauty of Waltham, Rev. J. B. M. Camm, Miss Ingram, Star of Waltham, Duchess of Edinburgh, Reynolds Hole, and Marchioness of Exeter. Edouard Morren, however, is a French and not an English-raised Rose. Mr. Charles Turner had the second prize.

In the open class—twelve Roses, single blooms, distinct—there were six competitors. Mr. Cant was first with charmingly fresh blooms of Devonians, Exposition de Brie, Abel Grand, Général Jacqueminot, Souvenir d'Elise, François Michelin, Baronne de Rothschild, Marguerite de St. Amand, Marie Baumann, Louis Van Houtte, Marquise de Mortemart, Madame Charles Wood, and Marie Van Houtte. Mr. Turner was second, and Mr. Smallbones third with capital collections.

For twelve trusses of Hybrid Perpetual Duke of Edinburgh Messrs. Paul & Son were the only exhibitors, and had the first

prize; for twelve trusses of Hybrid Perpetual Baroness Rothschild Messrs. Paul & Son were first and Mr. Harrington second; for twelve trusses of Hybrid Perpetual La France Messrs. G. Paul & Son were again first, and Messrs. Cranston & Co. second; for twelve trusses of Hybrid Perpetual Marie Baumann Mr. B. R. Cant was first, and Mr. R. N. G. Baker second for fine blooms; for twelve trusses of Noisette Maréchal Niel Mr. Charles Turner was first with very rich blooms, and Mr. Davis second; for twelve trusses of Hybrid Perpetual Princess Beatrice Mr. B. R. Cant was first, and Messrs. Paul & Son second; for twelve trusses of Hybrid Perpetual Edouard Morren Messrs. G. Paul and Son were first, and Messrs. Mitchell & Sons second for splendid blooms; and for twelve trusses of Hybrid Perpetual Madame Lacharme Mr. B. R. Cant was first, and Mr. Charles Turner second for excellent stands. For one vase of Roses, cut blooms, set up with Rose foliage only, the prizes went in the following order:—First to Mr. Charles Turner; second to Mr. J. Gardiner, Southgate; and third to Mr. J. W. Chard. In the miscellaneous class an extra prize was awarded to Messrs. William Paul & Son for an extensive and fine collection of Roses, also to Mr. C. Turner for a splendid collection of Pinks. A certificate of merit was also awarded to Mr. Charles Turner for Dean of Windsor Rose.

THE NATIONAL ROSE SOCIETY'S EXHIBITION AT ST. JAMES'S HALL.

JULY 4TH.

WHAT a contrast to the dull dreary day on which in December last some thirty or forty lovers of the Rose met together at the Horticultural Club to inaugurate the formation of a Society which should have for its special object the queen of flowers, the national flower of England, the flower that poets have sung of and lovers delighted in. Then all was expectancy, now all is a reality fulfilled. There has been no discontent, and so we must alter one word and say—

"Now is the winter of our expectation
Made glorious summer."

We know not what may be the result financially; but when the Society can muster some 250 members, when we can tell of more than 400 entries, which means 10,000 blooms, when we can say that from all points of the compass the very *crème de la crème* of English Rose-growers both professional and amateur have gathered together to the high festival, we may surely say that the Rose deserves the name of queen not merely from her own intrinsic beauty, but from the wide allegiance and the loyal homage that she claims—aye, and obtains too. But why at St. James's Hall? Is that a fitting casket for such a jewel? Is that a place where the Rose can be seen in perfection? Well, some can remember the first Rose show held there nineteen years ago and fancy another has not been seen to excel it, and now, as then, the desire was to bring the show into the heart of London. Those public places which are in the hands of companies were deemed unsuitable; Kensington and the Regent's Park were both considered too far off for the purpose; no open space could be secured, and if it could have been then all would have depended on weather; whereas in a room at any rate there is security from many of the annoyances which a wet day in a tent entails; and hence the discomfort of crowding and of being obliged to place some Roses where they could not be seen to perfection had to be endured in order to secure a central position. St. James's Hall appears, therefore, to have been a matter of necessity rather than of choice for holding the Show.

It will readily be believed that the office of Secretary has been no light one, but we are assured that it has been made much less heavy by hearty, cordial, and kindly co-operation which has been afforded, also by the confidence all have expressed, and especially, perhaps, by the hearty assistance of many local secretaries, some of whom have contributed very much to the success of the Society by their strenuous efforts on its behalf, and which have resulted in this great Show, for it may be said without reservation that no such gathering of Roses and Rose-growers has ever met in merry England before to do honour to our national flower. We have no wars of the Roses now; a friendly tournament is all we claim to hold, and we only look for it that the best knight may win his spurs and acknowledge the high honour he has obtained. Those honours were such as to be worthy of the best efforts of our best rosarians, and when such are engaged in earnest and kindly rivalry, why, then the Rose reigns triumphant. Rose weather, too, has at length prevailed, but it was not until almost the very eve of the Show. True we had brilliant days in June, but the ground and the air were dry and the blooms did not grow in a free, fresh, natural manner, but were, as was somewhat forcibly remarked by a real Rose-worker, "pulled out." But with July came a change: on the very first day of the month—the Rose month—a splendid shower fell over a wide district of the southern counties. On the

second day a partially clouded sky promoted a moist genial atmosphere; on the third sunshine mingled with shower, and induced a free unfolding of the blooms; and on the fourth, the memorable fourth, was the tournament—the feast.

The Rose was indeed in royal session yesterday, but they were southern beauties, the date being quite too early for the north, even for the north midland counties, where a few straggling blooms, the advance guard of the Rose army, are only now just forming. The morning of the Show was dull with the barometer slightly falling, but the day proved fine.

Unfettered by harsh laws Rose admirers—her lovers, the hard-working cultivators, came and offered freely of their very best at her shrine. What a theme this is for a poet to sing of!—a Rose show held in the very centre of London, in a hall large enough for all ordinary gatherings, but inadequate in every way to the needs of rosarians; and yet all we can say of it to-day is but a few hurried words—the leading incidents of the Show. Whether, then, we regard the number of exhibitors, the nature of their exhibits, or the general appearance of the Hall, we must pronounce the Show of the National Rose Society to have been what all lovers of the Rose will rejoice to hear—a great success. Mons. Cochet, the proprietor of the French *Journal des Roses*, who attended the Show, was surprised at its excellence, and stated that they have no Roses in France which can at all be compared with the grand English-grown blooms.

In describing the Exhibition we cannot do better than follow the order of the schedule, which commences as usual with the nurserymen's classes.

Class 1, seventy-two distinct, single trusses. The prizes were £12, £9, £5, and £3, and when it is considered that six great nurserymen competed it will be seen that there were plenty of good Roses to look at. In this class Messrs. G. Paul & Son and Mr. Cant ran very close. Mr. Cant's stands were placed in a very bad light close to the entrance door, but the Judges took the trouble to have them brought into a good light when making their awards. Mr. Paul was first with a very even and good stand. Mr. Cant's collection contained a considerable number of Teas. He had a lovely bloom of La Boule d'Or, the only one in the class; but the best bloom in his stand was Souvenir d'Elise. This was simply perfection; very large, with beautiful colour, and of superb form. Mr. Cant also had a fine bloom of Niphetos, which usually comes so fluffy and open; but here it may be said that Mr. Keynes showed by far the best Niphetos in the Exhibition. Devoniensis, Anna Olivier, and Souvenir d'un Ami were all to be found in grand form in his stands. The Colchester Hybrid Perpetuals were very fine, but the best were Mrs. Veitch, Etienne Levet, and François Louvat. This latter is seldom seen at shows, except in Mr. Cant's stands, and rarely grown by amateurs. This only shows how old varieties are often discarded as being useless now that newer and supposed finer novelties take their place in the rosery, and many such Roses as François Louvat ought to be grown as largely as Duke of Edinburgh and Charles LeFebvre. Mr. Cant had also fine blooms of Duchesse de Vallombrosa. The importance of a new good light variety of the colour of Baronne de Rothschild and the form of Madame Vidot in a stand consisting for the most part of crimson and high-coloured varieties cannot be overestimated. Another comparative novelty which he showed a magnificent bloom of was Mr. Cranston's Rose Sir Garnet Wolseley. If that hero was present yesterday he must have thought that this Rose was even worthy of his name and renown. Among our old favourites Mr. Cant showed magnificent specimens of Mlle. Marie Rady, Sénéateur Vaisse, Olivier Delhomme, Xavier Olibo, Marie Baumann, Charles Lefebvre, and (wonderful to relate) Gloire de Vitry. Once more that gem of the first water, that pure snow white Lily among the Roses, Madame Lacharme, came to the front. On the maiden she appears this year to be perfect. Mr. Cant's blooms are mentioned first, not because he was first, for Mr. Paul rightly won the premier prize, but the Colchester Roses were so fresh and attractive. To Mr. George Paul, however, belongs the honour of winning the premier prize at the premier show of the year, and no words can do justice to the regularity, the form, and the general excellence of the blooms; wonderfully fresh they were and of great substance. His stands, too, were full of novelties. Among these was a very good bloom of John Bright, a variety which will take a foremost place in the catalogues and the garden. But without further criticism the whole of the seventy-two varieties may be named which won him this great honour. They were Madame Charles Wood, Mlle. Marie Finger, Auguste Rigotard, Duchesse de Vallombrosa, Victor Verdier, Mons. E. Y. Teas, Peach Blossom, John Bright, Catherine Mermet, Maurice Bernardin, La France, Camille Bernardin, Mad. Vidot, Ferdinand Janin, Annie Laxton, Duke of Edinburgh, Mons. Noman, Felix Genero, Mrs. Baker, Elie Morel, Sénéateur Vaisse, Marquise de Gibot, Etienne Levet, Duchesse de Morny, Henri Ledechaux, Capitaine Christy, Mrs. G. Paul, Lælia, Robert Marnock, Madame Lacharme, Horace Vernet, Baronne de Rothschild, Louis Van Houtte, Maréchal Niel, Comtesse d'Oxford, Paul Verdier, Le Havre, Madame Nachury, Marguerite Brasseac, Edouard Morren, Ferdinand de Lesseps, Mons. Boncenne, Marquise de Ligneris,

Duchesse de Caylus, Clotilde Rolland, Xavier Olibo, Centifolia rosea, Alfred Colomb, Duchess of Edinburgh, Exposition de Brie, Princess Beatrice, Marie Baumann, La Ville de St. Denis, Jean Liabaud, Niphetos, Miss Ingram, Lord Macaulay, Olivier Delhomme, Marchioness of Exeter, Antoine Ducher, Marquise de Castellane, C. Lefebvre, Abel Grand, Annie Wood, Star of Waltham, Madame H. Jamain, Mdlle. Marie Cointet, Dr. Andry, and François Michelin. Messrs. Cranston & Co. were placed third with a good and level collection, and Mr. Keynes fourth with large blooms.

Class 2, forty-eight Roses distinct, three trusses of each. The prizes were £10, £7, £4, and £2, and they were awarded in the following order:—First to Messrs. Cranston & Co., second to Mr. Cant, third to Mr. Turner, Slough, and fourth to Mr. Keynes. The winning stands undoubtedly contained the largest blooms, and many of them were very perfect, but the Colchester and Slough Roses were the freshest. A few grand trebles in the first-prize stand were François Michelin, Madame Lacharme, Antoine Ducher, Etienne Levet, Le Rhone, Duchesse de Vallombrosa, Madame Vidot, Beauty of Waltham, Mdlle. Jacquier, Princess Beatrice, La France, Baron de Bonstetten, Mdlle. Marie Cointet, and Dupuy-Jamain.

Class 3, forty-eight Roses, distinct, single trusses. The following were the exhibitors:—Mr. Turner; Mr. J. Bunyard, Ashford, Kent; Messrs. Cranston & Co.; Mr. J. Keynes; Messrs. J. Mitchell & Sons, Uckfield; Mr. Cant, and Mr. Prince; and the prizes went—first to Messrs. G. Paul & Son, second to Mr. Turner, third to Mr. Keynes, and fourth to Messrs. Cranston and Co. The winning stands contained massive and highly coloured blooms. Especially striking were François Michelin, Henri Ledechaux, Xavier Olibo, Madame Charles Wood, Exposition de Brie, Louis Van Houtte, Comtesse d'Oxford, Mons. E. Y. Teas, Abel Grand, Duchesse de Vallombrosa, Victor Verdier, Mdlle. Eugénie Verdier, Marchioness of Exeter, and Madame Lacharme. Mr. Turner had Annie Laxton, Miss Hassard, François Michelin, and Maréchal Niel, grand; Mrs. Baker, Victor Verdier, Royal Standard, Devonensis, Belle Lyonnaise, François Louvat, Madame Lacharme were in charming condition, and the rest good. The other collections while containing many splendid blooms were yet somewhat irregular.

In the class for twenty-four trebles Mr. Cranston was first with very good trebles of even size and fresh bright colour. Mr. Paul was second, Mr. Cant third, and Mr. Turner fourth.

In Class 5, for twenty-four Hybrid Perpetuals, Mr. Curtis came to the front with a lovely stand, as fresh as if the blooms had not travelled a mile—as fine as if they had been cut from a quarter of a million of maidens. The most noted blooms were Prince Camille de Rohan, Duke of Edinburgh, Marguerite de St. Amand, Victor Verdier, La France, Marie Baumann, Mons. E. Y. Teas, and Black Prince, the last-named being equal to any Rose in the stand.

And now let a "WYLD SAVAGE" speak of his own particular pets—the cream of the Roses, the choicest of flowers, the loveliest of Nature's gifts. No less than eight nurserymen staged twelve Teas and Noisettes, and most charming work it was to judge them and discuss their beauties with two other enthusiastic rosarians. Mr. Cant was pre-eminent here on his own ground, tilting with his own particular lance, doing honour to his queen with the weapons of which he best of all others knows how to employ. What a stand it was! Here was La Boule d'Or again, which no other man in England can show so well, Souvenir d'Elise, Devonensis, Marie Van Houtte, and all the other leading sorts. This class was fortunate enough to have one of the best places in the Hall assigned to it, and so the visitors could see these jewels under every favourable condition.

Mr. Mitchell of Piltown came second with varieties some of which were quite equal to Mr. Cant's; but he did not show here nearly so fine as he did at the Crystal Palace. He showed a Rose, however, which is rarely seen—Duc de Magenta, and if the illustrious namesake only pleases the general public in France half as much as his Rose will please the public here, he need be in no doubt as to the result of the general election. The third prize was won by Mr. Davison of Hereford with a most uneven lot. He had a magnificent bloom of that coy pet Comtesse de Nadailac, and one or two other blooms were good, but the rest were poor. Mr. Keynes just secured fourth honours by the beauty of one bloom. This was Niphetos before alluded to. The other exhibitors had many fine blooms in their stands, but there was nothing striking or worthy of notice.

AMATEURS.—A vast number of blooms—the cream of the amateur growers—were exhibited. Hercules came from fair Devon with his marvellous blooms, so bright in colour, so lovely in form, and so fresh; Mr. Jowitt came from Hereford with blooms which can only be called magnificent; that great rosarian, the father of Rose shows, the President of this Society and the originator of the one of which this is no mean descendant, came from Causton with blooms of splendid size, freshness, and colour; and Mr. Arkwright, Hampton Court, Herefordshire, Mr. Pochin, Mr. Hollingworth of Maidstone, and a host of others came to swell the number.

In the class for forty-eight distinct, single trusses, there were fourteen entries. In this class Messrs. Cranston & Co. offered a fifty-guinea challenge cup for the first prize. This cup must be won in three years, and the winners in 1877 and 1878 can be the only competitors for it in 1879. First Mr. J. Jowitt, The Old Weir, near Hereford, who thus wins the first chance for this great trophy with Alfred Colomb, François Michelin, Madame C. Crapet, Madame Baronne de Rothschild, Duke of Edinburgh, Lord Herbert, Général Jacqueminot, Dupuy-Jamain, Prince Camille de Rohan, Louis Van Houtte, Dr. Andry, Xavier Olibo, Mdlle. Marie Rady, Exposition de Brie, Madame Marie Finger, Alfred Colomb, Lælia, Madame Boutin, Madame Hippolyte Jamain, Maréchal Niel, Louisa Wood, Monsieur Noman, Cheshunt Hybrid, Edouard Morren, Annie Laxton, Duchess of Edinburgh, Sir Garnet Wolseley, Madame Bellon, Capitaine Christy, a seedling, Monsieur Boncenne, Camille Bernardin, Madame Nachury, Marie Baumann, Clemence Joigneaux, Marguerite de St. Amand, Prince Arthur, Mdlle. Marie Cointet, Souvenir d'un Ami, Marie Van Houtte, L'Esmeralda, Jules Margottin, Princess Mary of Cambridge, Devonensis, La France, Ferdinand de Lesseps, and Annie Wood. Too much praise cannot be awarded to Mr. Jowitt, who won the cup. His blooms were really marvellous considering the distance he had come, and the fact that a thunderstorm raged at Hereford on Tuesday. Mr. R. N. G. Baker, Heavitree, Exeter, was second with a charming and very fresh collection. He had grand blooms of Alfred Colomb, François Michelin, Marie Baumann, Duke of Edinburgh, Duke of Wellington, Ferdinand de Lesseps, Maurice Bernardin, and others, running Mr. Jowitt very close. The Rev. Canon Hole, Causton Manor, Newark, was placed third; and the Rev. J. B. M. Camm, Monckton Wyld, Charmouth, fourth.

For thirty-six distinct, single trusses, there were seventeen entries. Mr. R. N. G. Baker was awarded the first prize; Mr. J. Brown, Reigate, second; the Rev. E. N. Pochin, Barkby Vicarage, Leicester, third; and the Rev. J. B. M. Camm fourth. Mr. Baker's collection was composed of Victor Verdier, Maurice Bernardin, Mdlle. Marie Rady, Charles Lefebvre, Mdlle. Eugénie Verdier, Fisher Holmes, Royal Standard, Marie Baumann, Baronne de Rothschild, Exposition de Brie, Marquise de Castellane, Duke of Wellington, Baron de Bonstetten, Auguste Rigotard, Comtesse d'Oxford, Xavier Olibo, Marquise de Mortemart, Alfred Colomb, Souvenir d'un Ami, Lord Macaulay, Marguerite de St. Amand, Camille Bernardin, Prince Camille de Rohan, Miss Hassard, Etienne Levet, Ferdinand de Lesseps, Madame Charles Wood, Pierre Notting, Madame Victor Verdier, La France, Louis Van Houtte, Marquise de Gibot, Sir Garnet Wolseley, Monsieur Noman, and Dr. Andry.

In the class for twenty-four, distinct, Hybrid Perpetuals, there were eighteen competitors. Mr. Atkinson, Brentwood, Essex, was placed first with a very fresh, good, and even collection, consisting of Madame Clemence Joigneaux, Marquise de Castellane, Duke of Edinburgh, Baronne de Rothschild, Louis Van Houtte, Edouard Morren, Charles Lefebvre, Marguerite de St. Amand, Dr. Andry, Anna de Diesbach, Dupuy-Jamain, Duchess d'Aoste, Camille Bernardin, Monsieur Noman, Marie Baumann, Madame Barriot, John Hopper, La France, Fisher Holmes, Henri Ledechaux, Duke of Wellington, Comtesse d'Oxford, François Michelin, and Jules Margottin. Mr. R. N. G. Baker was second, Mr. Jowitt third, and the Rev. E. N. Pochin fourth.

Twenty-eight competitors entered the class for twelve single trusses, distinct, the first prize being a silver cup value five guineas, presented by the proprietors of the *Journal of Horticulture*. In this class were to be found some of the finest blooms in the amateurs' section of the Show. Mr. J. Smallbones, Chatteris, Cambridgeshire, won the cup with very fine blooms of Dupuy-Jamain, La France, Etienne Levet, Mdlle. Marie Rady, Camille Bernardin, Baronne de Rothschild, Monsieur Noman, Prince Camille de Rohan, Abel Grand, Duke of Edinburgh, Marquise de Castellane, and Louis Van Houtte. Mr. Pemberton, Havering, was placed second; Mr. D. Sewell third; and Mr. H. Bensted, Rockton, Maidstone, and the Rev. W. H. Benn, Churchover Rectory, were equal fourth. In the class for six single trusses there were twenty-two entries. The first prize was awarded to Mr. J. Lakin, Chipping Norton, Oxon, for La France, Madame Victor Verdier, Jules Margottin, Maréchal Niel, Marquise de Castellane, and Souvenir d'un Ami; the second prize to Mr. A. Evans, Marston, near Oxford; third to Mr. J. Smallbones; and fourth to Mr. E. L. Fellows, Wimple Rectory, Royston.

In the amateurs' class for twelve Tea or Noisette Roses there were about twenty competitors, Mr. J. Brown, Reigate, being the fortunate winner of the first prize—a silver cup, value five guineas, presented by E. Mawley, Esq.—with Belle Lyonnaise, Souvenir d'Elise, Devonensis, Niphetos, Alba Rosea, Souvenir d'un Ami, Cheshunt Hybrid, Rubens, Marie Van Houtte, Anna Olivier, Madame Willermoz, and Maréchal Niel. Mr. J. Chard, Clarendon Park, Salisbury, was second; Professor Adams, The Observatory, Cambridge, third; and Mr. W. Smith, Birch Hall, Colchester, fourth. The whole of the collections were very beautiful.

OPEN CLASSES.—In Class 14, for twelve new Roses, distinct, single trusses, which have been in commerce since 1874, some very fine stands were shown. Mr. Turner here won the premier prize with blooms of great size, good colour and form. I (says "WILD SAVAGE") only noticed three bad blooms in the lot. A bloom of Mrs. Baker (Madame Hercules) in this stand was even worthy of that lady. I do not remember to have seen this Rose attain such form before; but if once a-year or once in two years one could get such a bloom it would be worth while to grow the Rose. He also had a marvellously good bloom of Mr. Cant's seedling Prince Arthur, also Mr. Paul's Rose Duke of Connaught; Duchesse de Vallombrosa and Madame Prosper Langier were both good. His own seedlings, John Stuart Mill and Royal Standard, were shown fine; while Mr. William Paul's Rose Star of Waltham outshone even its name and rivalled the brightness of the sun. Mr. George Paul was second with a good and even lot of blooms, the best of which was Mons. E. Y. Teas. Many of the above-named varieties were also in his stand, which was quite up to the average of new Rose exhibits. Mr. Curtis of Torquay came third: he staged a grand bloom of Sir Garnet Wolseley; and Lady Mary Keith and Royal Standard were also very fine.

For twelve trusses of English-raised Roses Messrs. G. Paul and Son won premier honours with Emily Laxton, Cheshunt Hybrid, Dr. Hooker, Rev. J. B. M. Camm, Reynolds Hole, John Hopper, Marchioness of Exeter, Star of Waltham, Duke of Edinburgh, Annie Laxton, Duke of Connaught, and Beauty of Waltham. Mr. Turner was placed second, and Mr. Cant third; and in the class for any new seedling Rose Messrs. G. Paul and Son were placed first for John Bright, which was in brilliant condition, and Mr. Turner second with Penelope Mayo, a grand new Rose resembling Marie Baumann, but having greater substance of petal.

For twelve blooms of La France there were six competitors. Mr. R. N. G. Baker won with grand examples; Professor Adams, The Observatory, Cambridge, was second with smaller but fresh blooms; and Messrs. G. Paul & Son third. For twelve blooms of Marie Baumann, Mr. Cant was first, splendid; Messrs. G. Paul & Son second; and Mr. Prince third. For twelve blooms of Alfred Colomb Messrs. G. Paul and Son had the first place; and Messrs. Laing & Co., Forest Hill, the second, for excellent stands. For twelve of Maréchal Niel Mr. J. H. Arkwright, Hampton Court, Leominster, had the premier place with grand and richly-coloured blooms. Mr. Turner, Slough, was placed second; and the Rev. W. H. Benn, Churchover Rectory, third. For Baronne de Rothschild the prizes went to Mr. Baker for grand blooms; Mr. J. Scrubby, Rundles, Harlow, Essex; and Mr. Cant in the order named. For twelve blooms of Louis Van Houtte Mr. Cant was first, very rich; and Mr. Baker second. The only prizewinners that we could find in the class for twelve blooms of Reynolds Hole were Messrs. G. Paul and Son; and for twelve blooms of Fisher Holmes Mr. Baker won the prize offered by that firm with fine examples of a Rose which is by no means easy to grow and show well.

For twelve trusses of any Rose not included in the above "twelves" Messrs. Curtis & Sandford, Devon Nurseries, Torquay, won with magnificent blooms of François Michelin, Messrs. George Paul & Son were placed second with the same variety, and Mr. Turner third with Mille Marie Cointet.

To Mr. Camm we are indebted for valuable assistance, and his words may fittingly close this report. They are as follows:—"We have done our task. Handicapped as to time, judging, staging in four classes, hurried in every way, it has been no easy matter to make even these few and imperfect notes; but such as they are they are given in the hope that they may at least not do dishonour to one of the grandest shows of Roses in the memory of Rose-growers. If a pleasant gathering, the making of new friends, and the fresh uniting of old acquaintances; if lovely blooms, happy and friendly faces, beautiful weather, can make a show successful and pleasant, then the first Rose Show of the National Rose Society will prove to be one of the brightest days that ever dawned on Rose-growers, and the only regret that we shall feel is that it is over, and that another year must elapse before we have such an opportunity of doing honour and paying our court to the queen of flowers."

A ROSE WITH A STRONG PEACH SCENT.

On an east wall of the garden I have a Rose now laden with flowers having a full strong perfume precisely like that of a Peach. Although thin, and loose, and scant of petals, they are not unornamental, the incurved petals being arranged in that pleasing cup-like order which is so much liked. It was received under the name of President, and its colour of mingled rose and salmon answers to the description of that variety in the catalogues. The growth is long, somewhat slender, with very few thorns, and foliage of medium size.

Upon a west wall there is another tree received from another nursery as Victor Pulliat, but which is precisely similar to the

one named President on the east wall, the Peach-like scent of the flowers leaving no doubt that they are identical. As Victor Pulliat is described as white tinged with yellow, I conclude that both my plants are President; and I am curious to know if other growers of it have detected its peculiar and certainly not unpleasant perfume.—EDWARD LUCKHURST.

NOTES AND GLEANINGS.

We have received from Mr. W. G. Smith a photograph of the portrait of the distinguished fungologist and physiologist Rev. M. J. BERKELEY, which has been suspended in the lecture hall of the Royal Horticultural Society at South Kensington. It is an admirable likeness, and we cannot suggest a better souvenir of one who lives in the affections of so many people than the excellent portrait which Mr. Smith has taken.

—THE NEWCASTLE SUMMER SHOW will be held on the 12th and 13th inst., and not on the 13th and 14th, as stated in our last issue.

—We are informed that a BOTANICAL FETE AND MUSICAL PROMENADE will be held in the Pine Apple Nursery Grounds, Maida Vale, by permission of Messrs. E. G. Henderson and Sons, on Thursday evening, July 12th, 1877, in aid of the fund for the enlargement and improvement of St. Mark's Church, Hamilton Terrace, N.W. The conservatory will be illuminated with gas and coloured lights, and embellished with works of art; and a large marquee will be erected, in which there will be a handsome display of flowers, epergnes, table decorations, and works of art. The fete is under the patronage of his Grace the Duke of Westminster, K.G., the Most Noble the Marquis of Hertford, Lord Garvagh, Rev. Lord Theobald Butler, Sir Henry Thompson, Col. Du Cane, R.E., C.B., and other distinguished ladies and gentlemen.

—MESSRS. CARTER & Co. have made arrangements with the Royal Botanic Society that their SHOW OF ANNUALS shall extend to July 12th, instead of the 3rd, as previously announced.

—MR. W. T. F. M. INGALL, Greenhithe, writes to us as follows on the USE OF PETROLEUM in the garden:—"Our sowing of Beet was looking very well, but it suddenly gave signs of going off, when my gardener directly sprinkled the crop with soot and then watered it with petroleum and water (in the use of which he is getting very apt). The crop quickly recovered, and has been doing well ever since."

—IN alluding to MANURE FOR ROSES Mr. Camm writes, "Let me thank with all my heart your correspondent 'J. B. K.' who has given me such valuable advice as to artificial manures. I will certainly try his mixture next year, and will let you know the results."

—THE annual Exhibition of the WEST KENT HORTICULTURAL SOCIETY is announced to be held in Bickley Park on Saturday next, the 7th inst. The schedule is of the same comprehensive character as heretofore, and the Exhibition is expected to equal former displays which have been provided by the Society.

—It is impossible to over-estimate the USES OF GLASS, yet it was accidentally discovered by some lumps of soda being used to support a pot over a fire on the seashore. The heat of the fire caused the soda and sand to unite, and their union formed rough glass.

—It has been estimated that the State of California has 15,000,000 acres of land adapted to the growth of the VINE, but that less than 50,000 acres of this vast area are as yet planted. The average number of Vines set out per acre is about nine hundred, which gives an average yield of 800 gallons of wine and 120 of brandy when in full bearing. The progressive advance of the industry is shown by the fact that the number of gallons made in 1859 was 100,000; in 1869, 500,000; in 1872, 3,000,000; in 1875, 7,000,000; in 1876, 10,000,000. If the present year be a favourable one for the Grape crop a yield of 11,000,000 to 12,000,000 gallons, worth \$4,000,000, may be expected.

—"M. J. B." states that Pooley's TOBACCO POWDER is the best thing he has ever tried for cleansing trees from green fly. "A Peach tree in one of our houses was in bad health last year. Shortly after the leaves began to expand this season they became covered with green fly. Syringing with various thoroughly recommended mixtures had no effect on them, because the leaves were so curled that the remedy could not reach the insects. At last the tree was dusted all over with Pooley's powder and gently syringed daily, but not enough to wash the powder

off, only sufficient to work it down into the curled leaves. In a week after this was done not a fly was alive on the tree, and the luxuriant growth it has now made would lead anyone to suppose there had not been a fly on it this season."

— THE PHORMIUM TENAX, or New Zealand Flax, is, it is said, being largely planted in St. Helena on behalf of a fibre company, who propose so to plant all the Government waste lands in the island.

— CONSIDERING the great beauty of the ERICAS it is a little surprising that they are not more extensively grown. Some of the most handsome and healthy specimens that we have seen of late are in the rising collection at Cleveland House, where one sometimes hears it said that Mr. Legg does nothing else besides carpet bedding. The Heaths in his charge, however, are in splendid condition, rivalling in health the more commanding fine-foliaged plants. Some of the ERICAS which were exhibited at the early shows are now flowering for the second time this season as freely as ever; and an idea may be formed of their vigour when it is stated that such sorts as Jubana rubra and Victoria have as many as twenty flowers on a truss. Candolleana, Dennisoniana, and the true obbata are extremely beautiful; and equally so are some of Messrs. Rolleston's new varieties, which are seldom seen. Mr. Ralli perhaps possesses the finest plant of E. Shannoni glabra extant; it is extremely beautiful, and the more valuable because the rosy white flowers are not gummy but are as smooth as glass. In fine contrast is E. oppulenta, rich crimson lake, the flowers lasting a month in beauty. Another richly coloured variety is E. effusa, crimson. E. ornata is a charming light-coloured variety; and E. tricolor profusa is both distinct and attractive. These are garden hybrids, and will prove to be greenhouse plants of the very first order of merit—varieties if well grown which cannot disappoint.

— PARIS GREEN is admitted to be the best specific in destroying the Colorado Potato beetle, and has also been used against the Phylloxera and garden pests generally. An American paper says no doubt exists as to its efficacy in destroying insects; but it must also be remembered that it is a metallic poison, composed of arsenic, copper, and acetic acid, containing about half its weight of arsenic in a semi-soluble form. It is dangerous to inhale, and poultry, hogs, sheep, and even dogs should be kept away from the fields in which it is used. Great care should be taken in using it.

ROSES, &c., AT THE REV. W. F. RADCLYFFE'S, OKEFORD FITZPAINE.

Now that Roses are so coming to the front, and the National Society's Show is so close upon us, a brief record of a short and pleasant visit to a garden which ought to be dear to all Rose-growers may not be unacceptable. It was hurried, but I could not manage it otherwise; but there was much to talk about and much to see.

It is now some three or four years since I saw my dear and valued old friend; and although time has dealt somewhat sharply with him, and severe illness has deprived him of some of his wonted activity, it has no way checked his love for Roses or made him take a less earnest interest in his garden; and I have never seen it in better order, although failure has resulted in some of his crops owing to the desperate weather we have experienced this spring—weather to which his garden has been specially exposed, for the terrible westerly wind sweeps over the downs and on to the village. So great was its force that it swept in a few minutes the entire Ivy covering of the viarage garden, and tore the coverings of the Peach trees to tatters; while severe frost had tried his Rose trees, at a time too, when he was laid by and unable to attend to them; so that there had been much to contend with. But my friend is not to be deterred by difficulties, and I need not say as far as possible all has been remedied.

As I have frequently said, the persons who will be most likely to be interested in visiting this garden will be the real lovers of Roses: the exhibitors, the mere searchers for novelties, or those who look for prettiness, will be disappointed. My friend never exhibits; he buys no new Roses. When one is well established in favour he tries it; and his object is to have his Roses safely moored, and so tall stakes are prominent in his garden. And when he finds a Rose to suit his soil and situation then he goes in for a quantity. Let me name, then, a few of those which I saw in superb order. Charles Lefebvre was grand in all stages of development. Talking the other

day at Spalding about Roses, a very distinguished amateur said that he never saw it now with that beautiful dark shading that it used to have. Had he been with me he might have seen it to his heart's content—enormous blooms with the most splendid colouring. Then I do not think I ever saw Princess Mary of Cambridge so fine: it was large, larger than I ever recollect seeing it, and the colour so soft and beautiful. When I speak of size it must be remembered that my friend never disbuds a Rose. He cut me off some blooms of Jules Margottin of immense size with four or five buds around it. And so with all his Roses. M. Clémence Joigneaux, John Hopper, Baronne de Maynard, Camille de Rohan, Lord Macaulay, Madame Victor Verrier, and such-like were by the score, for when he finds that a Rose suits his soil and situation he goes in for it largely. He will probably add fifty of Princess Mary of Cambridge because it has done so well; and so it will be with others. Then another object he has in view in his pruning is to keep up a continuous bloom, so that his secateur is constantly at work, and he thereby gets good strong shoots for autumn blooming.

There are three Roses about which his judgment has been much questioned—Madame Chirard, Baron Chaurand, and Felix Genero. With regard to the first he has been obliged to alter his opinion. The Rose is large and the growth of it most vigorous, but it fails in opening, and consequently he has felt it necessary to place it in the background. With regard to the other two I do not wonder at his liking them. Baron Chaurand, though not an exhibition Rose, is undoubtedly one of the most brilliant-coloured flowers we have, intense fiery scarlet in the centre—unlike any Rose I know; and certainly Felix Genero as grown here needs no comment. It is lovely both in form and colour, while in size it is no way behind the greater number of our exhibition Roses. There were blooms of it here which might have gone into any stand. Another Rose almost gone out of cultivation, but certainly worthy of a place for its intense colour, and a great favourite here, is Souvenir de Dr. Jamain. It is a small neat Rose, but of the most beautifully deep claret colour possible; never large enough to be in a stand, but certainly to be desired by all who love variety in their Rose garden. Duke of Edinburgh was here very brilliant in colour, similar to those I have seen in Hercules' garden at Exeter; and what Rose can be more beautiful when caught in its true scarlet hue? Time and space would fail me in enumerating the beauties I saw here, but enough will have been said to show that my good friend has not abated his zeal, and that his hand has not lost its cunning.

The Peach and Nectarine trees were in marvellous health and beauty; no blistered leaves, but large and well-developed foliage, showing that with care and attention even in a locality so little favourable they can be grown without disease. But of fruit, as in every place that I have seen this year, there was next to none. This is a matter which no skill can secure, and indeed in many orchard houses there is the same report as on the outdoor walls. But Mr. Radclyffe may well be proud of his trees. I have seen many a large garden this year where the trees afford a very unfavourable contrast to those I have seen here.

And then with all his other cultures what glorious rows of Lapstones are here! a Potato my good friend clings to in spite of all the highly trumpeted novelties both from across the water and at home. And well he may, for at his hospitable table there was a dish of them as mealy and as good as in the very height of the season, and this when new Potatoes were being used. At least it was Yorkshire Hero, which after several years of cultivation I must pronounce to be the same thing. A little later it may be, but I do not think the graft which it was supposed to arise from had been much influenced by the stock, or *vice versa*.

The same high-class cultivation went through everything, Peas and all other vegetables grown here; but the one flower was the Rose. It is with the Rose that the name of Mr. Radclyffe will be always associated; and when some of our English growers raise a Rose worthy of a good name, as they have already done, let them honour themselves by affixing to it that of a true rosarian and a thoroughly kind and hearty old English gentleman, for my dear friend has now reached the allotted threescore years and ten. Simple in his habits and patriarchal in his ways, his chief delight is to benefit those around him. No case of real sorrow but what his heart and hand are open to, while he is beloved by those immediately about him. One inevitably thinks of Sir Roger de Coverley in his presence; for while he lacks the stiffness of that fine portrait he has all

the *bonhomme*, the generosity and kindness, that characterised Addison's ideal. One never leaves him without the feeling that few are like him; and I feel confident that those who may differ from him in judgment, as sometimes they may do, did they know him would feel that it could only be done with the deference due to one who with large experience has also a real and hearty love for the pursuit we alike love.—D., Deal.

VINES IN POTS AT WORCESTER.

WHAT becomes of all the Vines which are grown in many of the nursery establishments? is a question one often hears asked. It is a very natural question, especially when we remember that with ordinary care and good management the Vine may be kept to do good service for many years. One of the largest growers of young Vines in England is Mr. Richard Smith. In his nursery at St. John's, Worcester, about three thousand young Vines were grown last year, but this year a still larger number is being prepared, and not only are they large in number but excellent in quality. Even at this early period and under the very cloudy and cold unfavourable season some hundreds of good canes are fast ripening their wood, so much so that the first lot of Vines are already placed outdoors with canes as thick as one's finger. Here they can finish-off their ripening while the heat of summer is at its best.

Some growers of Vines have no objection under some conditions to plant young Vines for permanent growth in the middle of summer: hence it is that some are often being sent out from this establishment throughout the growing season as well as during the dormant period of the Vine. It is well worth a journey to any person much interested in the culture and growth of young Vines to pay a visit to this nursery. Free growth and short joints, with well-ripened wood, are the chief points to be attended to in Vine cultivation; and on these points excellent lessons are derivable at the principal nurseries where Vines are largely cultivated.—GEO. DAWSON.

TORQUAY ROSE CLUB.

"ANOTHER Rose show! Another account of excellent Roses, superb blooms, perfect forms, &c., by that wildest of Wyld Savages too!" may perhaps be the remarks made by some gentle readers of our Journal as they turn over your Rose number and see the whole of the excellent Journal for one week at least devoted to Roses.

Yes, and why not? What can be better, what can be more delightful than a Rose show? The more shows the merrier, say we; the further afield we go with our boxes the jollier for us. The more the superiority of the Rose above all other flowers is evinced by the number of times which she finds her worshippers eager to pay her court by tilting lances in her honour, why, the better. And here this year the Queen of the West—the most famous of all watering places both as a winter resort and as a summer residence, the home of yachting men—the portly town of Torquay, invites us to come and show our blooms and do our best in honour of *Rosa regina florum*. We accept the invitation; we cheerfully undergo no end of fatigue in order to show there, and also to get back home in time to stage for the Alexandra. Ah me! that Alexandra! Would that they would not always fix on a Saturday for their shows. If the Directors would for one moment reflect how many persons are exhibitors, and how hard it is in country places to get one's duty done, they would, I think, in charity change the day. The Crystal Palace Directors are too old at their work, too hard-hearted men for us to hope to move them; but the Alexandra people surely have tender hearts and kind dispositions, or else they are scarcely worthy of the name by which their place is called. So may even a "WYLD SAVAGE" plead for a change next year? This year I must miss the Show, and what such a loss is to me all rosarians know.

After the Show at Exeter the Torquay cannot be pronounced to be a first-class Show, for in the first place there was literally no competition for the head classes. Mr. Cranston had the misfortune to lose a box, which entirely destroyed his chance, as he was unable to stage the required seventy-two. So there was no one against Mr. Curtis except an amateur of the name of Robson, who ventured to compete in a class which for the very largest amateur growers it would be folly to attempt; as it was, his seventy-two contained duplicates, which disqualified it. Roses were wrongly named, and altogether a more miserable stand it has never been my lot to judge. Messrs. Lucombe & Pince put in also an appearance, staging a box of twenty-four blooms of Niphetos, and in one of the smaller classes for Hybrid Perpetuals.

The amateurs were in great force. Mr. Baker led the van, and

well sustained his great reputation by winning first prizes in the three classes in which he staged. Mr. T. Jowitt of Hereford maintained his grand form, securing two firsts; and Mr. Beachey and Mr. Tomlinson also took first prizes. Mr. Jowitt showed the best eighteen I think I ever saw, or at least it would be indeed a sight to see anything finer than seventeen of the blooms. The eighteenth was certainly unworthy of its position, and Mr. Jowitt recognised this by not naming it. He had blooms of Madame Rothschild, Marquise de Mortemart, which I never saw surpassed. The latter was the purest white, with what I may call the rare Centifolia form (for this Rose I mean). The centre was suffused with most delicate shades of rosy flesh. Aurora arising from the sea could not have been more lovely, and I do not think some rosarians will soon forget the bloom. He had also a lovely bloom of a variety, which I never saw before, called Julie Duran. This in colour is between Ferdinand de Lesseps and Antoine Ducher, but in form it is pure globular, each petal winding round the other like a lovely bloom of Madame Bravy. He had also fine blooms of Louisa Wood, Hippolyte Jamin, and others. I have spoken at length about this stand, as with the exception of the Teas his stand was the finest in the Exhibition.

Mr. Baker's forty-eight, considering that he is not yet in anything like full bloom, was very fine. As usual his blooms were distinguished by their bright fresh colours and their lovely form; of course, in a stand of forty-eight in a hot tent it would be impossible for some not to be a little overblown, but these when judged were very few. He was of course, as usual, exceptionally strong in the highly bright-coloured varieties. His Marie Baumann, Xavier Olibo, and above all Charles Lefebvre were splendid. It is really a great treat to linger over his stands when one has the opportunity and compare his blooms with what we know we have left in our own gardens, and be spurred thereby to still greater efforts to grow Roses well. I had the honour of being placed second to him in forty-eights and in Teas. Concerning this class they were the finest I have seen this year. Mr. Charles Turner said he did not remember to have seen so many or so good before. Mr. Baker showed the same bloom of Marie Van Houtte which he exhibited at Exeter, and though a little fuller it was as fresh and good as ever. He also had Caroline Kuster, Madame Willermoz, and Madame Margottin exceedingly good. The only bad bloom in his box was Maréchal Niel. He also had some very fine trebles, and secured here of course first honours.

The Torquay Show will be ever memorable to me from a bloom shown by Mr. Curtis of Prince Camille de Rohan. It is impossible to describe either the form or colour. It would be almost as rash on my part as to try and paint the Lily, but it is not too much to say that no finer bloom of that dark variety can ever have been shown. He had also a box of very good new Roses, and again he showed Abel Carrière, the variety I described (or tried to do at least) in my account of the Crystal Palace Show. This bloom was really splendid, in form something like Andry or Lefebvre, but in colour like Camille de Rohan or a very fine Louis Van Houtte. He showed also very finely Souvenir de Arthur Sansal. This I think may be described as an improved Jules Margottin.

Besides Roses there was a fine collection of miscellaneous plants, but it is no part of my duty to describe them; sufficient is it to say that Dr. Woodman brought some of his splendid specimens, which I believe are considered to be the finest in England. Altogether it was a very fair show; and if only in future years the Committee will be a little more liberal in the matter of prizes, and not offer £2 instead of £5 as the second prize for forty-eight varieties, and, if they are otherwise unable to increase their expenditure, will reduce the number of classes and devote the money saved to making the prizes in the remaining classes a little more equivalent to the value of the exhibits, the Torquay Rose Show may one day be one of the events of our Rose year.—WYLD SAVAGE.

AURICULA CULTURE.

I SHOULD like to be clearly understood that I know cocoa-nut fibre is an excellent covering for the drainage in the pot prepared for hospital treatment of this flower, as it retains cavities longer than leaves would, but it must not be used where the roots are allowed to run into it. Again, as to liquid manure I may have been somewhat inexplicit; therefore I would say that the cow dung for that liquid cannot well be too old—two years at least, and must be reduced to dust. Then, as to strength, it is difficult to describe it exactly; perhaps about a quart of the strong liquid to a gallon of soft water, and must not in any case be darker-coloured than ordinary soft water, and may not be used too early in the season. Let the trusses repose down in the heart of the plant till seasonable weather calls them forth. When the truss has given signs of movement give a soaking of the liquid manure, which must be

followed by the ordinary watering. Never store this liquid or it will deceive you. The Polyanthuses in the border will be grateful for it, and you must make fresh again when the first pip begins to expand, and if you wish to take seed another dose when the flower is fading. This last liquid should be made with leaf mould.

In my next communication I will detail an entirely different mode of culture for the Auricula, a method which insures green and white edges from the inconstant varieties in those classes, also very large foliage, yet not soft or flabby; much larger pips, and fine plump seeds, yet the method will be found simple and natural.—G. W. BULLOCK, *Brockton, Stafford.*

PROPAGATING ROSES.

Roses, unlike some other flowers, are in full beauty at the same period, when measures must be taken to increase the stock of plants. The month of July is the month of Roses, and the same month is the month for budding, also for inserting cuttings. Many, I know, will not accept the latter statement as being correct, nevertheless I must repeat that July is the best month for striking cuttings of Roses. Roses are also increased by grafting, but as that is spring work I will not further allude to it in the "Rose week."

I sometimes think that it is because the Rose is in full beauty during the season for budding that so many Rose buds are inserted. People, not rosarians, but just ordinary people, are smitten with the charms of the Rose and are conquered. They impulsively ask how to insert buds and when, and on receiving the necessary information they set to work on the spur of the moment, inserting buds on all sorts of stocks suitable and unsuitable, and become rosarians in embryo before, as the common saying is, "before they know where they are." There would never be so many growers of Roses if budding were not so easily learnt, and if the Roses, the glorious Roses, were not there to "coach" them, impel them, to become proficient in the art. Every year there are beginners in the art of Rose-budding; every year there are numbers who insert their "first bud." They insert it wrongly, possibly for want of knowing better, perhaps insert it as I inserted my first bud—wrong end upwards, and perhaps it may grow as mine did when so inserted. That just proves how accommodating the Rose is, how simple is the process of budding; and when I hear anyone attempting to enshroud the art with a certain amount of mystery, as I sometimes have heard, I always think of my first Rose bud.

In the early days of my Rose career (long years have rolled since then) I had not the advantage of a guide, I had not seen the *Journal of Horticulture*. I had to grope my way as best I could, ashamed (I may as well own it) of asking for information for fear of betraying my own ignorance. It was very weak, I know, on my part, but I never had a strong nerve, and I no more dare append my name to this letter than I dare in the centre of St. James's Hall next Wednesday declare the Rose the most ugly flower of earth. Paradoxical as it may appear, it is because of my diffidence—my weakness, that I write on the subject of budding Roses. There is an old and true saying that an "old poacher makes a good keeper;" he knows the frailties of the craft he has to deal with, their weak points, their habits. Remembering, then, my own early difficulties, and presuming there are others as weak and yet as willing now as I was weak and willing then, I offer them my sympathy, my aid.

I often think, and I have heard others express the same opinion, that there is a powerful vein of sympathy existent between the readers of your *Journal*. If anyone will make his want known on any horticultural matter, however difficult it may be on one hand or simple on the other, there is always someone ready to "turn up" in the most frank and friendly manner. I was much struck a fortnight ago with the difficulty of one of your contributors in obtaining manure for his Roses. He had no manure, he could neither make it nor buy it, and asked how he was to proceed. That was I thought a poser; yet "J. B. K." comes to the rescue, and in a most valuable letter gives more information than I venture to say Mr. Camm bargained for. But I am digressing—am wide of the mark on budding, and I must think of my friends who desire to know how to bud and do not like to ask.

Perehance this number of the *Journal* will reach someone in perplexity at the same opportune moment that a number reached me nearly twenty years ago. It not only told me when to bud, but showed me how to do it. I have always had a great re-

spect for that number, and I think I can repeat the first sentence from memory, although I cannot state the year nor the month when it appeared. My rendering is as follows:—"What is the best weather for budding? I am told damp cloudy weather is." How often would such a question, asked by an amateur, obtain such an answer? How startling, therefore, to him to be informed to the contrary! Why, he has seen it recommended in books! Yes, nothing more generally recommended than damp cloudy weather for budding! To say bright, warm, sunny weather is best, provided the stocks are in proper condition, will sound like heresy; extensive experience, however, tells me such is the case. I may be asked why? and I would answer that in warm weather the sap is more gelatinous; and the bud, on being extracted and inserted in the stock quickly, properly tied, &c., soon takes. On the contrary, in wet cloudy weather the sap is more thin and watery, and the bud will not unite so freely. To this we add that a fall of rain (likely in such weather) after the buds are inserted will fill up the incisions, and thereby rot and perish the buds before they have time to unite with the stocks. Not only is clear warm weather best for the experienced budder, but likewise for the amateur and tyro." [Correct.—Eds.]

The last word I can remember is "tyro." It was that word that riveted my attention. I was indeed a tyro then in Rose budding, and there may be other tyros now. I write, then, for tyros. Close your eyes, rosarians; skip this page, it is not for you, you need different fare, and will doubtless find a spread of it; but remember that you once hungered for different food than that you now require. Well, after reading that article referred to some years elapsed, and other equally clear, perhaps more so, illustrations of the simple matter of Rose-budding appeared. Although I perhaps could then bud as well as the contributors of those articles, I read them as keenly as if I had never inserted a bud. The "old love" was remembered, was rekindled, and glowed as warmly as ever. One of the articles I allude to was signed "T. J. S., *Twickenham*," the other I forget. I cannot give you the dates, nor even guess at them. I'm not good at dates; and I cannot refer to the numbers, for I always send my *Journal* away after perusal, where it is bound and preserved; but it is far from me at the present moment. And now, Messrs. Editors, a happy thought strikes me (I wish it had occurred to me before). If you would turn to the numbers and again submit to your new readers what you once submitted to the "old subs," I am sure you would win their thanks and save my time. The authors in my mind and your library have told how to insert buds better than I can tell it, and I will vouch for it the practice detailed is as good as ever. It has never been improved upon—has never been put so clearly before, and can never be put more clearly again. I flatter myself that a good idea has been born to me, and I shall rely on your carrying it out. If I see anything wrong in it I will correct it next week. In the meantime time has flown freely, and I must be in town to-night (Monday), and shall remain for the National on Wednesday. Perhaps I may call at 171; but do what I ask of you. I'm off.—JOHN HOPPER.

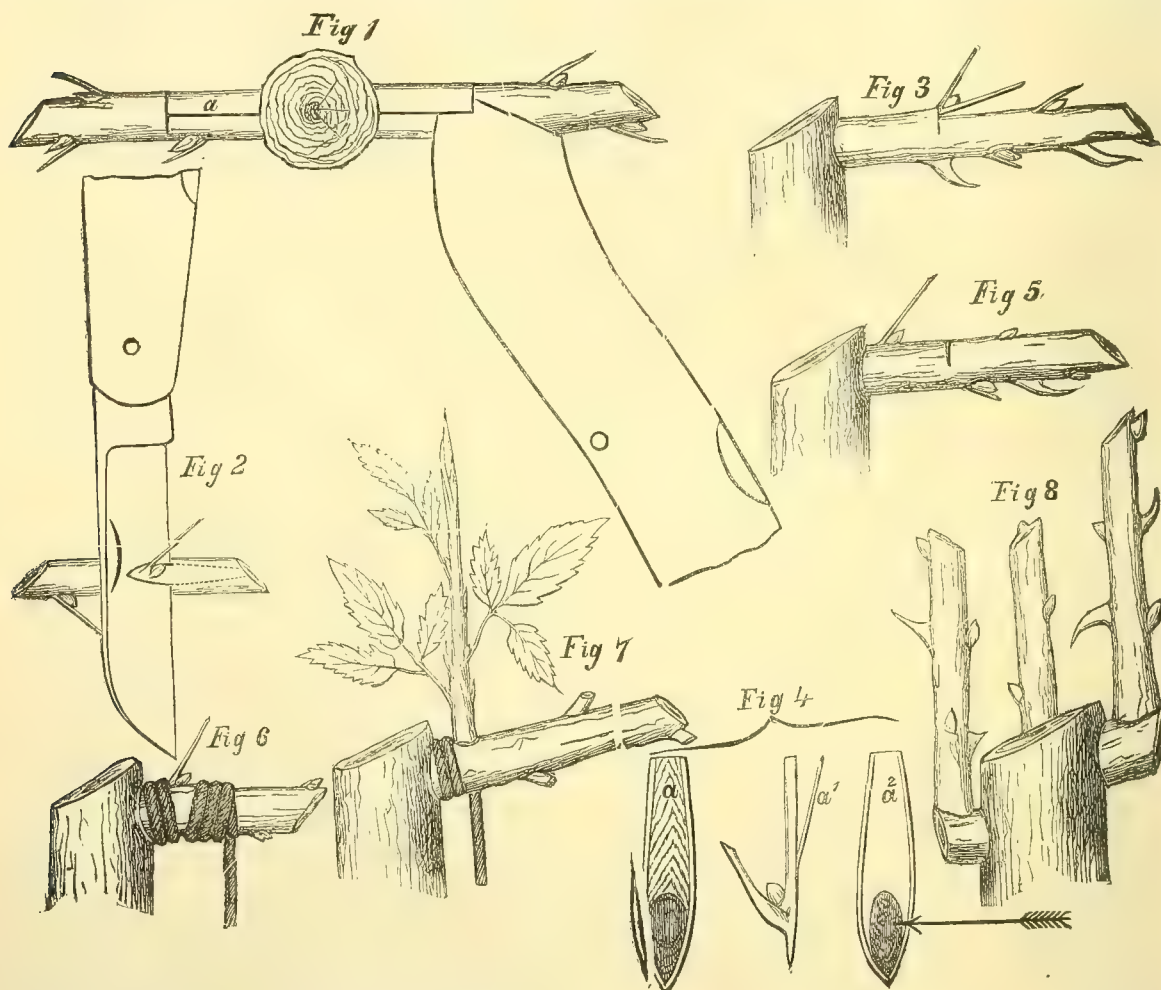
[What can we do but comply? We do so readily, however, because the information requested is good and the *modus operandi* of budding is clearly shown. As our correspondent has also mentioned the striking of Roses from cuttings without detailing the practice we publish what Mr. Luckhurst has written under that head.—Eds.]

"I ascertain," says "T. J. S.," "the time the stocks are ready for budding by rubbing off some of the thorns, and if these are easily detached I know the stocks are in the right condition. I then cut the shoots back, leaving on them three or four buds to the stock. In the shoot to be budded I make a T cut (as shown in fig. 1 at *a*), just through the bark, being careful not to injure either the wood or bark, insert the point of the handle of the budding knife gently into and along each side of the longitudinal cut (fig. 1), detaching the bark from the wood to allow of the insertion of the bud, for which it is now ready. Obtain the bud by choosing one which appears to be the fullest from a branch or shoot of the Rose to be propagated. Cut it off, as shown in fig. 2, take the wood out of it carefully, so as not to pull out the heart of the bud, insert it in the T cut under the bark, fig. 3 (in fig. 4 I have shown a large bud with the wood in *a*, the wood in course of removal at *a*¹, the wood taken out, the heart of the bud being left, and to which the arrow points, at *a*²), push it close up, as in fig. 5, and tie firmly with wool or ball lamp cotton, as in fig. 6. As the original buds in the shoots in which the bud of the required

Rose has been inserted keep pushing I pinch them all off, in order to throw as much vigour as possible into the inserted bud, and am careful that no other shoots grow from the stock. When the inserted buds have grown the length shown in fig. 7 I remove the tie. As I prefer to have blooms as soon as possible I permit the inserted bud to grow as long as it will, and am often rewarded with flowers the same season. In the

following April I cut back this shoot, leaving only on it three or four good buds, as shown in fig. 8."

CUTTINGS.—"At no better time," says Mr. Luckhurst, "can Rose cuttings be made than directly after the first or summer bloom is past. Stout firm wood of the current year's growth, and which has carried a truss of bloom, should be selected for cuttings, which, when made, should not be longer than 6 or



7 inches. This length will admit of two, and in close-jointed wood of three eyes, with a portion of each leaf on the upper

termed a heel as in fig. 9, which represents part of a finished cutting ready for inserting in the soil, fig. 10 showing the branch from which the cutting was taken. This heel is quickly coated over by the callosity, which soon begins to form, and from which the roots readily start."

THE AQUILEGIA.

I do not know whether Aquilegias should be catalogued amongst the neglected plants; but this I do know, that it is many years since I used to admire the fine clumps of *Aquilegia vulgaris* of many colours, including the pure white variety, in the cottagers' gardens in Scotland; but even in country districts the inevitable scarlet *Geraniums* and yellow *Calceolarias* or *Feverfew* have usurped the place of the stately *Columbine*. Collections of herbaceous plants are not complete without the addition of some of the different species of *Aquilegia*, and now that many of the trade growers are forming collections we shall see our old favourites taking the position which their merits deserve.

They are of the easiest culture, and may either be grown in pots or planted out in the open border. I have grown a goodly number of species and varieties, but have found some of them to be rather difficult to manage. I had in the first place a plant or two of each species, but will now only mention those that are easily cultivated and which will be certain to flower



Fig. 9.

Fig. 10.

part of the cutting. A small portion of the old, or last year's wood, must be left at the base of the cutting to form what is

freely every year. The first I will mention is *A. leptocera aurea*, not *A. lutea*, which has been in cultivation a number of years, and is a poor washy-looking flower not worth room in the border. The other sort was introduced some five or six

years ago, and the first flowers of it that were exhibited at South Kensington were from the gardens at Loxford Hall, and to it a first-class certificate was voted by the Floral Committee. I have many plants of it now in flower raised from seeds, and



Fig. 11.—*AQUILEGIA CÆRULEA HYBRIDA*.

all of them are true to name. The flowers are golden yellow, and instead of drooping, as in some of the species, they are nearly upright. The spurs are also deep yellow and about 3 inches in length. I have had plants over 2 feet in height, and bearing quite a hundred charming flowers. The plant is

of very vigorous growth. *A. cærulea* is another very beautiful species. The flowers are large, pale blue, the centre white; they are also erect like the first-named sort. The plant bears numerous flowers on a spike from a foot to 18 inches in height.

A. californica is a desirable variety from the colour of its

flowers, which are scarlet. They are not large, and are borne on straggling branches nearly 3 feet high. It has short spurs. The plant is hardy and easily grown in pots.

A. pyrenaica is a very desirable species. The flowers are purple, drooping, very large, and abundantly produced on slender stems a foot in height. The rich purple flowers afford a pleasing contrast to the pale blue, deep yellow, and scarlet of the other species.

In 1875 I was tempted to hybridise a few of the species, in each case taking parents very distinct in character from each other, and the result has been very satisfactory. Of one variety I flowered this year about 130 plants, and there is scarcely any difference amongst them. One plant had flowers a little larger than the others, but in no other respect did they differ, and they were exactly intermediate between the parents. This variety has as its female parent *A. leptocera aurea*; the pollen was taken from *A. californica*. The flowers are scarlet as in *A. californica*, but the centre is golden, like the variety from which the seed was saved. It has also the long spurs of that variety, and the flowers, though not so large as the female parent, are very much larger than the male. It was named *A. californica hybrida*, and received a first-class certificate from the Royal Horticultural Society, and also a certificate of the highest merit from the Royal Botanic Society.

A. cærulea hybrida, the variety that has been so faithfully delineated in the excellent wood engraving accompanying this article, was raised by crossing *A. leptocera aurea* with *A. cærulea*. The flowers are pale blue and as large as *A. cærulea*; but instead of the white centre, as in that sort, the centre is yellow. The plant also grows taller than *A. cærulea*, but not so tall as its female parent. It also bears a larger number of flowers. As in the case of the other hybrid, all the flowers are alike, and the bunches exhibited both at South Kensington and at the Royal Botanic contained flowers taken from several plants. This variety also received first-class certificates from the Royal Horticultural and Royal Botanic Societies.

No garden should be without these fine flowers. They are excellent border plants, have a fine effect in the greenhouse or conservatory, and are invaluable for cutting to place in vases for the drawing-room or for making-up dinner-table decorations. Even when not in flower their glaucous finely-divided leaves have a pleasing effect. In hot weather red spider attacks the leaves, but not to an injurious extent, and it is easily destroyed by syringing.—J. DOUGLAS.

RICHMOND HORTICULTURAL SOCIETY'S SHOW.—JUNE 28TH.

SUBURBAN horticultural exhibitions have now become numerous, and it must be admitted they are doing much good for the encouragement of horticulture in their immediate neighbourhoods. There are many good horticulturists who cannot conveniently exhibit at the metropolitan shows, but who are none the less hardworking and able cultivators, and it is at these local meetings that they are able to meet in friendly rivalry and test their horticultural abilities with their neighbours.

Richmond Show occupies a high position as a suburban show, situated as it is in a very wealthy and fashionable neighbourhood, where plenty of support is provided of funds and exhibits. It has also a good, practical, working Committee and a Secretary with great zeal and energy. It is, therefore, not surprising that their third annual Exhibition should have proved a good one. The arrangements were ample and excellent, five marquees being set apart for the various entries, which numbered about five hundred. The groups, stove, greenhouse, and plants in general, were staged in the largest tent; cut flowers and dinner-table decorations in a second; fruit and vegetables in the third; the fourth was set apart for all productions responding to the long list of special prizes; and the fifth for cottagers' productions. The weather for the occasion was extremely hot, and the fine old trees surrounding the deer park formed a grateful shelter to the influx of visitors—the rank and fashion of the neighbourhood—from the fierce sun's rays.

The centre of the large tent was devoted to specimen plants, the groups being arranged around the sides with just a few tables at large intervals, on which were placed the hardy Ferns, Orchids, Gloxinias, and Geraniums. Six competitors tried their skill for the groups of plants arranged for effect. These groups, which occupied a space of 100 square feet, were semicircularly arranged on the grass. Mr. Howell, gardener to Sir H. W. Parker, Stawell House, Richmond, was placed first with a very light and effective group. The front edging was composed principally of *Panicum variegatum*, interspersed with small *Pelargoniums*, *Adiantum cuneatum*, and other Ferns, small Palms,

&c., the whole backed-up with larger Palms, Crotons, and such-like plants. Mr. Kinghorn, Richmond, who must have been a very close second, had a very graceful and elegant group of well-grown plants. Messrs. Jackson & Sons were third, but this collection though rich was overcrowded. An extra prize was awarded to Messrs. Hooper & Co., The Nurseries, Twickenham, in this class.

In the open class for nine fine-foliage plants Mr. Kinghorn was placed first with good plants of *Dracæna indivisa*, *Pandanus Veitchii*, *Dicksonia antarctica*, *Chamærops Fortunei*, *Yucca aloifolia variegata*, *Croton Weismanni*, and others. Mr. W. Bates, gardener to W. H. Punchard, Esq., was a good second; and Mr. Cornhill, gardener to J. S. Virtue, Esq., third. Messrs. Jackson and Sons were the only exhibitors in the class for nine stove and greenhouse plants (open), and were deservedly awarded the first prize. Exotic Ferns were well shown, and were a grand feature. In the class for eight plants Mr. D. East, gardener to J. Wigan, Esq., Clare Lawn, East Sheen, staged fine examples of *Dicksonia antarctica*, *Adiantum formosum*, *A. concinnum latum*, *A. cuneatum*, *Asplenium bulbiferum*, *Cibotium Schiedeii*, *Cyathea dealbata*, and *Gleichenia flabellata*, and received the first prize. Mr. Cornhill was placed second; and Mr. Wells, gardener to the Hon. J. Vivian, Selwyn Court, third. The above class, together with three classes for Roses and three for fruit, were open classes, the remainder being limited to subscribers. It will be convenient to first take note of all the Roses, and then the whole of the fruit, whether in the open or other classes.

Roses.—These were shown both in great numbers and of good quality by Messrs. Paul & Son, Cheshunt, and Mr. Turner of Slough. Mr. Paul remarked that he never in his experience staged such a stand of thirty-six trebles. Sultan of Zanzibar, Monsieur Noman, Louis Van Houtte, Abel Grand, Reynolds Hole, Marchioness of Exeter, Madame Thérèse Levet, John Hopper, Cheshunt Hybrid, Mrs. George Paul, Madame Nachury, Camille Bernardin, Marquise de Gibot, Miss Poole, Duke of Edinburgh, Annie Laxton, La Rosière (a fine new dark), Mdlle. Eugénie Verdier, Mons. E. Y. Tess, Victor Verdier, Ferdinand de Lesseps, La France, Horace Vernet, Edouard Morren, François Michelin, Madame Marie Finger, Marguerite de St. Amand, Xavier Olibo, Henri Ledechaux, Elie Morel, Dr. Andry, Etienne Levet, Monsieur Boncenne, and Princess Beatrice were grand, and were deservedly awarded the first prize. Mr. Turner was placed second, in whose stands there were good blooms of François Michelin, Reynolds Hole, Xavier Olibo, Général Jacqueminot, Baronne de Rothschild, and others. Messrs. Dobson and Sons, Isleworth, were placed third. In the class for twenty-four trees (nurserymen) Messrs. Paul & Son were again first. In this collection Mdlle. Marie Cointet was good. Mr. Turner second; Mr. Master, Otlands Park, third; and Messrs. Dobson, fourth.

For twenty-four single trusses (amateurs) there were eight competitors. Captain Eastwick, Teddington, was placed first with large but somewhat rough blooms. Mr. Moorman, gardener to the Misses Christy, Ccombe, second with a very fresh but smaller lot; and Mr. James, gardener to F. Watson, Esq., Isleworth, third. In the class for twenty-four single trusses in the Society's district Mr. James was first, Mr. W. Bates second, and Messrs. Dobson & Sons third. For eighteen and twelve blooms Messrs. Marlow, Smith, and Roberts shared the honours between them; and for the special prizes offered by H. G. Bohn, Esq., Twickenham, Messrs. Marlow, James, and Smith were awarded the prizes in the order named.

FRUIT.—There was a large display of fruit of excellent quality, the best we have witnessed this year. The first-prize collection of six dishes came from Mr. Fry, gardener to L. Baker, Esq., Haydon Hall, Pinner. He had Early Lyons Cherries, Violette Hâtive Peaches, Brown Turkey Figs, Colston Basset Melon, Charlotte Rothschild Pine, and good Black Hamburg Grapes. Mr. Cornhill was second with a very fair lot. Black Grapes were shown by ten exhibitors. Mr. East was placed first, Mr. Bates second, and Mr. Edwards, gardener to the Misses Tristram, third, all showing Black Hamburgs of excellent quality, large in berry, fair-sized bunches, and of an intense black colour. White Grapes were contributed by Mr. Bates, Mr. Edwards, and Mr. Fry, and the prizes were awarded in the order named, Mr. Bates winning the first prize with grand examples of Foster's Seedling. There was also a strong competition for the classes set apart for fruit in Division B, which was confined to the Richmond district, Messrs. Bates, East, Howell, Child, Sallows, Morrell, Lake, Wells, James, and Smith shared the principal honours, and the majority of the productions were very fine.

Orchids were not extensively shown, there being only three competitors, Mr. W. Bates winning first honours with *Oncidium flexuosum*, *Aërides Dayanum*, *Saccolabium retusum*, *Odontoglossum Alexandræ*, *Cattleya Mossiæ*, and others. Messrs. Jackson & Son were placed second, and Mr. Williams, gardener to J. Bridgeman, Esq., Twickenham, third, who all staged excellent examples. Hardy Ferns were shown by Mr. James, Mr. Crafter, and Mr. Morrell, the prizes going in the order named; and exotic Ferns from the Society's district were contributed

by Mr. Smith, gardener to A. Cooper, Esq., Twickenham, who was awarded the first prize. Mr. Morrell, gardener to J. S. Rutter, Esq., Twickenham, was placed second, and Mr. Attrill third. Caladiums were excellently shown; of the five competitors Mr. Morrell was placed first, Mr. Howell second, and Mr. Marlow, gardener to J. Wigan, Esq., third. The prizes for Begonias went respectively to Mr. Sallow, gardener to J. Flack, Esq., Hampton Road; Mr. Wells, and Mr. East.

Pelargoniums, both show and fancy varieties, were well shown by Mr. James and Messrs. Dobson & Sons, the first prize in each case going to Mr. James and the second to Messrs. Dobson. Scarlet, zonal, bronze, and tricolor Geraniums were also very well shown; Messrs. Crafter, Sallow, Wells, Tipping, Smith, and Attrill carrying off the honours. Mr. James was the only exhibitor of six Lilies, and was awarded the first prize. Gloxinias came from Mr. Morrell, Mr. Crafter, and Mr. Smith, who were placed first, second, and third respectively. Coleuses were staged in large numbers, but they had such a weedy look about them when surrounded with other fine-foliaged plants that it would be well to exclude them from the schedule in future. Fuchsias were very well exhibited in the class for nine distinct varieties by Mr. James and Mr. Wells, and in the sixes by Mr. Crafter and Mr. Attrill.

For six stove and greenhouse plants in the Society's district there was a very fair lot, Mr. Crafter being placed first, Mr. Attrill second, and Mr. Goodman, gardener to T. Nesbitt, Esq., Twickenham, third; and for the single specimen plant in flower Mr. W. Bates was placed first for a very fine and well-bloomed *Stephanotis floribunda*, the second prize going to Mr. Attrill for *Rhynchospermum jasmynoides*, and third to Mr. Morrell for *Stephanotis floribunda*.

Dinner-table decorations were not very superior. The best three vases of natural flowers and foliage (open) came from Mr. W. Brown, Richmond, followed by Mr. Kinghorn and Messrs. Dobson & Sons. In the corresponding class for amateurs only, Mrs. A. Chancellor, The Retreat, Richmond, was placed first; Mrs. Moran, St. Margaret's, second; and Miss Augusta M. Warde third. For a single stand Miss Isabella Warde, Mrs. A. Chancellor, and Miss Blanche Lockwood received the awards in the order named. Bouquets came from Mr. Brown, Messrs. Dobson and Sons, and Mr. Kinghorn, who were placed first, second, and third respectively. Button-hole bouquets were very pretty, and Miss L. Gossett, Mortlake, was placed first; Miss Headley, Petersham, second; and Miss J. Warde third.

VEGETABLES.—There was a very fair show of these. The special prize cup offered by Messrs. James Carter & Co., valued five guineas, was won by Mr. Crafter, gardener to the Rev. W. Finch, Kingston Hill; and a good collection of ten sorts came from Mr. Wagstaff, gardener to T. H. Elam, Esq., Firstleigh, Isleworth. There were several cottagers' productions, but for a district like Richmond they ought to have been seen in larger numbers. Their productions on the whole were very creditable.

Extra prizes were awarded to Messrs. Veitch & Sons for a collection of new and rare plants, Roses, &c.; to Messrs. Rollison, Osborn, Dean, and Herbst for miscellaneous collections; and a certificate was awarded to Messrs. Paul & Son for Rose Duke of Teck, a deeper-petalled Duke of Edinburgh.

RICHARDIA ÆTHIOPICA AS A HARDY AQUATIC PLANT.

Few plants have become more popular during recent years than this "Trumpet Lily" of the Cape, as it is popularly but erroneously called. It is not a Lily at all, but an Aroid. It is better known by the name of Calla or Arum Plant than *Richardia*. Callas, however, belong to the natural order of Arontaceæ.

The true name of the plant is *Richardia*. It was introduced from the Cape of Good Hope in 1731, and was named after L. C. Richard, a French botanist. It is a greenhouse herbaceous perennial, and is increased by suckers or division of the plant in spring. For a length of time the *Richardia* was grown entirely in the greenhouse, occasionally having a place in a tank or cistern, where it grew luxuriantly and by chance flowered. It is only during recent years that a systematic mode of culture has been adopted, and plants have been produced which flower with certainty even in a very small state, thousands being annually sold in the London market in 5 or 6-inch pots, each plant having one or more distinct spathes or flowers. At one time it was considered necessary to grow the plants under glass, keeping them dry in the autumn to induce their flowering, but a simpler and easier mode of culture now prevails.

After the danger from frost has passed the *Richardias* are divided and planted in manured trenches in the open ground. They are supplied with water during the summer, and in the autumn are potted. They do not make luxuriant growth

during the hot months of summer, but are sturdy and produce small stout leaves. Like *Celery* they grow the most rapidly when heavy autumn dews prevail. They are potted before the frost injures them, and are placed in light houses. They are introduced into gentle heat as required, and commence flowering at Christmas, and continue throughout the winter and spring months, and during that period they are very valuable for many decorative purposes.

But while *Richardias* are valuable for conservatory and room decoration they are amenable to another—a simpler, easier, but not less effective mode of culture, which cannot fail to render them additionally popular. I allude to them as hardy aquatic plants. For the beautifying of ornamental water, ponds, &c., in pleasure grounds, a "great feature" is anticipated for *Richardias*. They have not yet been largely employed for the purpose named, but that they are well adapted for it a pond almost full of them in Mr. Seely's grounds at Furzedown testifies. Mr. Laing, the gardener, saw them thus growing in Ireland, and concluded that the bottom of a pond in Ireland was not warmer than the bottom of a pond in England, hence he attached weights to the roots of some plants and threw them into the pond to "take their chance." It was a lucky throw, for they grew and have continued growing and flowering for six years. The clumps have from six to twelve flowers on them. The foliage is about a foot above the surface of the water, and the flowers are a foot or more above the foliage. They are very pure, stout in texture, and produce a beautiful effect.

Mr. Rogers, the able Superintendent at Battersea Park, who is always well in the van of floral embellishment, has the *Richardia* growing and flowering in one of the miniature lakes there, and it is greatly and deservedly admired by visitors.

There can be little if any doubt that the *Richardia* will grow and flower in any sheltered pond in England (except perhaps in the northern districts, and is worthy of being tried even there), provided the water is not less than a foot in depth, so as to preserve the crown of the plant from frost, and provided also the water is not too deep; but what the maximum depth is I am unable to say. At Furzedown the plants are established from 1 to, I think, 2 and 3 feet deep.

Throw the plants into ponds now, affixing the roots in the mud, having the principal leaves above the surface of the water and await the results.—J. W.

[We shall be glad if the experiment suggested can be tried in various parts of the country, and to be acquainted with the results.—Eds.]

VITALITY OF SEEDS.

"Some thirty years or more ago my gardener raised about 2 square yards of sods near the road in the park, not far from the small ruin; the ground was left red—not sown with grass seeds. A very thick crop of *Hyoscyamus niger* sprung up. They were cut down when the seeds were formed, and were given to one of the apothecaries of the town. Since then they have not reappeared anywhere until the present year, when I find three plants in full flower near the park road, opposite to the first quarry, where you can see them among some Nettles. *Hyoscyamus* is a common plant in England, but is certainly very rare in this district; in fact, I do not think that I have ever seen a plant of it growing wild with us. The new plants are at about 300 yards distance from the old crop. As the deer will not touch them, there could have been no growth of *Hyoscyamus* plants during the period I have mentioned.—N."

I have offered the only solution which appears to me probable, if possible—viz., that the seeds of *H. niger* lay dormant there for perhaps centuries, until the removal of the sods allowed them to vegetate, bringing them within reach of solar and other influences. The castle—a fine old ruin, which had some hard knocks in Oliver Cromwell's time—most likely had its herbarium "garden of herbs," for medicinal as well as culinary uses, and *Hyoscyamus niger* may have flourished there in the collection; as our poet says—

"Where once a garden smiled,
There still may many a garden flower grow wild."

But would such seeds retain vitality for so many years? The park has been under pasture longer than any one can remember, and the present proprietor is over seventy-five years of age.—H. N. O., Mallow.

[Your suggestion we think is correct. Many seeds if kept quite dormant will vegetate after the lapse of many years. It is chiefly the want of a due supply of oxygen that forbids seeds

germinating which are buried at great depths; seeds thus deposited, or similarly excluded from the air in the Egyptian mummy cements, will often retain their vegetative power for an apparently unlimited time. Hence, earth taken from far below the surface will often become covered with Charlock. This is an oleaginuous-seeded plant; and such, when thus excluded from the air, retain their vitality most pertinaciously for reasons already assigned.—Eds.]

KINGSTON AND SURBITON HORTICULTURAL SOCIETY'S SHOW.—JUNE 27TH.

At The Cranes, Surbiton, this Society held its thirteenth annual Show on the 27th inst., which was an excellent one; indeed not much inferior to the metropolitan shows. The schedule comprised ninety classes, besides a long list of special prizes. The exhibits were arranged in four marquees. Stove and greenhouse plants were extensively shown, and formed a grand feature in the largest tent; and the ladies' tent was particularly attractive from the many admirably arranged examples of dinner-table decorations. Dinner-table decorations are done better and are always shown in larger numbers at Kingston than at many local shows, and a good judge of the metropolitan shows remarked that they were vastly superior to anything to be met with in London. An arrangement of three decorations set up by Miss Eyfe, and composed of only wild flowers and grasses, was exquisitely beautiful, so light and graceful—a most pleasing arrangement, and not, as might be imagined, having a weedy appearance. Other successful exhibitors were Miss Cavell, Misses Gould, Mrs. Clay, and Mrs. Wilson.

Four classes were set apart for stove and greenhouse plants, which brought together a grand lot. In the class for nine plants there were only two exhibitors—Mr. Watson, gardener to T. R. Bryant, Esq., Glencairn, Surbiton; and Mr. Ellis, gardener to J. Galsworthy, Esq., Kingston Hill, who were placed first and second respectively. But the class for six plants brought together six collections, all remarkably well-grown plants. Mr. Hinnell, gardener to F. Davis, Esq., Angelsea House, Surbiton, was first; Mr. Croxford, gardener to Mrs. Dunnage, Surbiton, was second; Mr. Crafter, gardener to the Rev. J. Finch, third; and Mr. Attrill, gardener to J. Freake, Esq., fourth. A special prize was offered for nine stove and greenhouse plants in flower in 12-inch pots, brought out three good collections. The first prize was awarded to Mr. J. W. Moorman, gardener to the Misses Christy; second to Mr. Ellis; and third to Mr. Hinnell for plants somewhat smaller than the other two collections, but very superior.

Fine-foliated plants were also well shown, Messrs. Attrill, Crafter, and King sharing the honours in the class for six plants, and Messrs. Ellis, Fielder, and Gray in the class for three. Exotic Ferns were also shown extensively, and in six Mr. Hinnell was placed first, Mr. Attrill second, and Messrs. Watson and Ellis equal third; and for three Ferns Mr. Fielder, gardener to R. B. Perkins, Esq., first; Mr. J. Watson, gardener to Capt. Cundy, second; and Mr. Gray, gardener to G. B. Windeler, Esq., third.

Fuchsias were not as numerous as is usual at Kingston, Messrs. Moorman and Watson being the only exhibitors for nine plants, and were placed in the order named, both collections being very good; and for six plants Mr. Attrill was the only exhibitor, and received the first prize. Pelargoniums were shown in large numbers. Mr. King, gardener to R. Few, Esq., Wosely Grange, Esher, was first both in the nine large-flowering and nine fancy Pelargoniums, and Mr. Croxford, second; and in the class for six Mr. Kent, Mr. Hodgson, and Mr. J. Watson were awarded prizes in the order named. Tricolor and Bronze Geraniums were both well and largely shown; the scarlet-flowering section was also well represented. Achimenes and Gloxinias were very good and shown in large numbers. Dinner-table plants brought together seven competitors. Mr. R. Watson was placed first, Mr. Moorman second, and Mr. King third, all with very neat and even-grown plants.

Roses were shown by numerous exhibitors, but as a whole not up to the average of former years. The season has sadly affected them in this district. Mr. Moorman was placed first for twenty-four varieties (distinct), closely followed by Mr. Ellis, who was a good second. There were also classes for twelve and six both in the amateurs' and professional divisions, and amongst the prizewinners were Messrs. Vicary, Crafter, Leech, Clay, and Gains.

Fruit was not largely shown, but was very good, Mr. Croxford being placed first for a collection of six dishes. White Grapes came from Mr. R. Watson, Mr. Bailey, and Mr. King, who were awarded first, second, and third prizes respectively. Black Grapes were also shown well by Mr. Hinnell, Mr. Watson, and Mr. Croxford. Melons from Mr. Child and Mr. Gregory, Mr. Child winning the two first and Mr. Gregory the two second prizes. Strawberries in pots were well done, and brought eight competitors; Mr. Ellis first, Mr. King second, and Mr. Attrill third.

For a collection of vegetables, twelve sorts, Mr. Moorman was placed first, Mr. Ellis second, and Mr. Croxford third; and for six sorts Mr. Watson and Mr. Kent were first and second. Cucumbers were shown in large numbers by Mr. Child, Mr. Mills, and Mr. Eaton, who were awarded in the order named for well-grown examples.

For Sir Trevor Lawrence, M.P., the President's, special prize for groups of plants there were six competitors. Mr. Croxford was placed first, Mr. Watson second, and Mr. King third, most of them displaying superior taste, notably the first-prize collection. Messrs. Veitch & Sons staged an excellent group of Acers and Roses in pots, as well as several boxes of cut Roses in first-rate condition, and found numerous admirers. Messrs. Jackson and Sons contributed a group of stove and greenhouse plants at the other entrance, which was also very attractive. The weather was fine, and the Show was undoubtedly a success financially, and reflected credit on Mr. McMillan the Secretary.

FERNS IN COMMON SOIL.

FEELING persuaded that the day must come when Ferns will be generally grown in manure and soil instead of peat and sand, I sent you some fronds to show that mine do grow luxuriantly, and will now state exactly how they are treated. The seedlings are pricked-out into a small frame that stands on slates placed on the hot-water pipes, and four or five weeks afterwards they are potted and again placed in the frame for a few hours, then placed on beds of soil in the Fern house. If any manure is used in the pans or frames in which the seedlings are raised, a black fungus growth soon covers and destroys the young Ferns. As soon, however, as they are large enough to pot there is no danger to be apprehended from this cause, and then every Fern is potted in about two parts of garden soil (I should prefer decayed turf), and one part manure.

My *Adiantum Farleyense* are very large and seed freely. They cannot be more healthy or grow faster, I believe. They were potted the second week in March in soil brought in a barrow out of an orchard quite wet and cold. One was potted in two parts of the soil and one part of cow manure brought direct from the field. A second was potted in two parts of that cold wet soil and one part horse manure brought direct from the stable. A third was potted in two parts of the soil and one part of an old Cucumber bed. The three are all now standing together, and perhaps the one with the cow manure is not quite as strong as the others, but they are all in perfect health and have seed fronds.

Now I do not want to suggest that it is necessary or wise to pot Ferns in wet soil from an orchard, but I do say that all the labour bestowed on growing them is a waste of energy. They will give no trouble in rich soil without peat and sand, provided that they are kept moist and warm, and that the hole at the bottom of the pot is enlarged. If, however, it is not very large with my treatment the Ferns will die; and if it is very large they will grow, not like Cabbages, for it requires a good gardener to grow a good Cabbage, but they will grow as they cannot in peat and sand.

One fact and I have done. The fronds I sent were cut in a house about 50 feet by 30 feet. The only person who attends to that house is the daughter of one of the farm servants. She does not know the name or nature of any Fern, but simply with the rose of a great watering-pot keeps them very wet—almost muddy, and when she sees an insect or a weed she destroys it.—H. L.

[The fronds sent were extremely fine.—Eds.]

THE ROSE YEAR.

WE gather from many letters which we have received from various districts that 1877 is not a good year for Roses, and that cut-back plants have suffered more severely from inclement weather than maidens, and that as a rule Roses in the south have suffered greater injury to their early growth than Roses in the north. We are only able to publish a few extracts from these letters, commencing with those from districts "near home."

SURREY.—"Seldom, I imagine, have May frosts done more mischief. The wall fruits almost all gone—Peach trees with me have perished, Pears hopeless even in sheltered places. All this might have been borne but for the burned-up state of the first blooms of most Roses. I have broken off dozens of blighted buds. However, bright sunshine has repaired many mischiefs, and I incline to think our exhibitions about here will not be much below the average. The rains have come most seasonal, and probably the great National Show of

July 4th will find Surrey about at its best; at least a Reigate friend in whom I place much faith jubilantly threatens a thirty-six box for St. James's Hall, to replace his first for twenty-four at last year's Aquarium Show. Speaking of Reigate I may remark that the Reigate Committee, with its popular President Mr. Baker, had resolved on offering this year an all-England prize for thirty-six, in hopes of attracting some Hercules and Leviathan; however, the seizure of our day by the Alexandra (all honour to them otherwise for their most liberal schedule) has caused this to be deferred at any rate to another year. *Plaisir remis n'est pas perdu* (Pleasure delayed is not lost), as a lady friend of mine has just written to me. It would be great convenience if we could have two Julys. Could not our ingenious American cousins contrive this for us? That I doubt; but with reference to Rose results I will take one idea from them, 'It is never safe to prophesy unless you are sure;' but I venture to predict that in the great contest impending the best horse will win, and that a good horse (or Rose) cannot be of a bad colour.—A. C."

Mr. Jessop, writing from near Chertsey, says, "The late cold wet spring has very much retarded the growth of young wood. The ground was sodden, and then came continuous east winds, which dried up into a hard crust the clayey soil of this neighbourhood; afterwards in May came the cruel frosts, stopping the growth and cutting off the shoots that had started. In some quarters, where the ground had been stirred about the roots of the Roses and then heavily mulched, the growth has been satisfactory, some of the shoots being surprisingly strong—viz., Cheshunt Hybrid, Etienne Levet, Comtesse d'Oxford, Richard Wallace, Capt. Christy, Camille Bernardin, Peach Blossom, Emilie Hansburg, Comte de Nanteuil, and many of the old favourites. Reynolds Hole, Horace Vernet, Marie Cointet, Charles Rouillard, Duke of Edinburgh—straggling growth. Xavier Olibo is, I believe, constitutionally weak, and always seems as if making an effort to exist. Dwarfs on the Manetti are generally bad here. In some quarters, where the soil is lighter for the Manetti, grubs have played sad havoc, many of the stocks being killed outright, the fibrous roots being entirely eaten away; the Briar on the clay escaping this pest. Sultan of Zanzibar, Dr. Hooker, Duke of Connaught, Miss Hassard, and Mons. E. Y. Teas are doing fairly well. La Rosière is of a splendid colour; I think much of it. Of its form and texture another week or two will tell better. It is a poor affair thus early." Mr. Moorman communicates similar experience from Coombe, and from Buckinghamshire we have tidings of the same nature.

Going "further a-field" Mr. Camm writes as follows:—"I live just on the borders of Dorset, and the district I allude to extends from here to Exeter. I should say the prospects in this district are rather bad. My Roses have not done at all well. There is no growth, no vigour, and no likelihood of it either, so far as I can see. Mr. Baker's Roses are very backward, particularly his young plants and his maidens; in fact, up to this date he has cut all his prize blooms from old plants. Tea Roses here are very backward. The severe weather in May destroyed most of the early buds, and as I never leave a faulty bud on a tree numbers of my Teas have not yet bloomed. I believe there will be a great scarcity this year of standard Roses in the market. One or two of the great houses are very badly off for them, but I hear there are wonderful prospects for next year, and in those nurseries which I have visited I have been much struck with the grand growth of the Briars. On the whole, then—judging from my own garden, from exhibitions, and from what I have been told by the leading rosarians—I am inclined to think that the year 1877 will not be reckoned as a good Rose year."

From more northerly districts we gather from two letters from Yorkshire and one from Lincolnshire that spring frosts have only slightly injured the young growths, that the Roses have seldom looked better than this year, and have never been known so late. One writer says that the great Rose Society that is "called national" is only "half national," and that "it will not be worthy of its name until it is strong enough to hold two shows in each year—one in the south and one in the north; and until that is accomplished growers in the north, however 'warmly' they might support the Show, must be 'left out in the cold,' because Lincolnshire, Notts, and Derbyshire are a fortnight and Yorkshire three weeks later than Devon, Dorset, and the southern counties."

From Scotland we learn that the Rose prospects were never better than this year, and that growth is advancing rapidly under the genial influences of fine weather.

From Wales (South) we have an interesting letter giving a favourable account of that district for Rose culture, and that Roses generally are now looking well. As we cannot well abridge this letter, its publication must be postponed, as must also several other interesting communications on the same popular subject, although we have afforded this week additional space to Rose articles.

FRUIT-TREE CULTURE.

I HAVE read the interesting remarks of your correspondent "NORTHERN GARDENER," but do not propose at present to consider all the points he has brought forward. With regard to the law on the subject, I am still of the same opinion—that I was some time ago, that a grand result would be produced by an alteration in the way suggested; and my principal object in now writing to you is to say that I do not intend to let the matter drop, but am collecting information on the subject.

On consideration I came to pretty much the same conclusion as "NORTHERN GARDENER," that the present moment, whilst the war between Russia and Turkey was proceeding and the fag-end of the session approaching, was not very opportune for the introduction of the subject.

There was an extract in the Journal the other day from an American newspaper which stated "that fruit to the value of millions is imported here which might be just as well grown at home." That, no doubt, is true, and I hope before long we shall do it.

Besides the articles in this Journal alluded to by your correspondent, there have been several important papers and essays lately elsewhere. A paper by Mr. Webb on fruit-growing, read before the Institution of Surveyors; a paper in the "Society of Arts Journal," January 19th, 1877, on the cultivation of common fruits from a social and economical point of view; and quite recently an essay in the "Royal Agricultural Society's Journal" on fruit-growing in Kent, by Mr. Whitehead of Maidstone; so that if something is not done before long to extend fruit cultivation in this country it will not be from the want of attention being drawn to the subject on the part of the literary community.

I do not think landlords here with their present ideas would care to supply fruit trees to the tenants. The cottages are no profit now; very often a cottage and a quarter of an acre of garden ground let for 1s. a-week and the landlord expected to do repairs, and the interest put on for a few trees he would think *infra dignitate*. Perhaps they may be induced to change their ideas on the subject, if not disposed to grant the small concession of allowing their tenants to take away what were originally their own trees.

I think there is a great deal to be learnt yet with regard to Apple cultivation by observing the time in which the various kinds come into bloom, and the result on the produce of the trees. I took a few notes this year, which I may send at a future time if thought likely to be interesting.—AMATEUR, Cirencester.

[Please do so; your letters are always interesting.—EDS.]

ROSES AND THEIR ENEMIES.

AMONGST the answers to correspondents in your last week's edition I note an expression of opinion that emmets are not destructive to Rose buds. Permit me to say that my experience of growing Roses has taught me that these insects do as much injury to the buds as the caterpillar; and having regard to the great numerical strength of the emmets to the caterpillars, the former, in my opinion, do by far the most injury. From my observation of the emmets' work of destruction I am able to say that they attack the extreme point of the bud. Here they soon make a small hole downwards in the centre; in a few days the top half of the bud will be entirely eaten away, and instead of looking at a bud which a few days ago promised to turn out a fine Rose, one has now to look upon a mass of emmets comfortably lodged on the remains of the bud.

The above short record of my experience of the emmet, and, so far, its habit of destructiveness, may perhaps be interesting to some of your numerous readers who are fond of a good Rose. I grow a good many of them in my villa garden, and pride myself that I can cut a good one for a button-hole every morning from about the middle of May to, I might say, the end of the year, besides furnishing my house and numerous

friends with good wholesome bunches to decorate their tables.
—L. H., Bromley, Kent.

I THINK it is generally asserted that ants do not destroy Roses. Well, bees do not eat fruit if they can procure their usual food, but will do so rather than starve: so ants, if numerous and food scarce, will be found a great nuisance. Previous to the summer of 1875 I looked upon ants on Roses as merely indicating where a little extra attention was needed in washing to keep down the aphides; then, however, I found to my cost that under certain circumstances they were flower-eaters.

As the case is perhaps exceptional I may state that, having had to form a new rosery the previous autumn, and being close on the rock with only about 6 inches of soil, it was necessary to look around for loam suitable for bringing in; this I procured from a piece of waste land covered with ant hills. Half the ground was made up, and the Roses planted. The ground being well mulched with stable manure, nothing was seen of the ants till, in the course of the summer, the buds began to show colour at the points. Then the work of destruction began: the ants began at the apex of the buds and gradually ate all down as level almost as though cut across with a knife. At first I removed the injured buds, but finding the ants only took to the next branch to recommence operations, the injured buds were afterwards left as traps, from which swarms (I cannot find a fitter word, as they resembled nothing so much as miniature swarms of bees) were pinched off and killed many times a day. There could be no mistake about the depredators, for they were there by thousands, and were watched and destroyed constantly, as my employer required boxes of Roses twice a-week in London, and without constant attention I believe the ants would have claimed all. The same thing occurred again, but in a less degree, last summer to fresh-planted Roses, the remaining ground having been made up from the same source in the autumn. This year there is no injury done, although the ants are pretty numerous, but owing to the numbers destroyed the supply of food is equal to the requirements of those left. Therefore I infer that only in exceptional cases are ants destructive to Roses. — R. C., Castle Gardens, St. Fagan's.

ROYAL HORTICULTURAL SOCIETY.

JULY 3RD.

VERY interesting plants and cut flowers were arranged in the conservatory on this occasion—interesting at least to horticulturists; but as a "show," as commonly understood by the public, the display had no claim. As a meeting it was a good one; and it is submitted that it is a mistake to announce the ordinary fortnightly gatherings as more than horticultural meetings; to refer to them as "exhibitions" can only mislead the public, and almost certainly result in disappointment.

FRUIT COMMITTEE.—H. Webb, Esq., V.P., in the chair. Only a small amount of fruit was exhibited, and no awards were made by the Committee. Mr. Ollerhead exhibited two well-grown and perfectly ripened fruits weighing nearly 4 lbs. each of Queen Pine Apples; also a Melon the result of a cross between Colston Basset and Cox's Golden Gem, but it was not so good as it looked. Mr. Gilbert exhibited a fruit of Kasgar Melon, and although it was of good flavour it was not considered superior to other varieties in cultivation. The same exhibitor also submitted a very fine example of Criterion Peas growing on the haulm, and also a separate dish of the same good variety. Mr. Bull exhibited a brace of very large Cucumbers. A dish of a new Strawberry was sent from Messrs. G. Paul & Son, Cheshunt, and twenty-five dishes of Strawberries in as many varieties were sent from the Society's garden at Chiswick.

FLORAL COMMITTEE.—G. F. Wilson, Esq., in the chair. Messrs. James Veitch & Sons, Chelsea, exhibited a small group of very choice plants, and first-class certificates were awarded for *Cypripedium albo-purpureum*, the result of a cross between *C. Dominii* and *C. Schlimii*. It is a most beautiful variety with handsome bright green recurved leaves, and a charming flower, somewhat of the colour of the hardy *C. spectabile* but richer, the throat being finely spotted. Also for *Rhododendron Countess of Derby*, one of the javanico-jasminiflorum type. The colour of the flower is rich pink suffused with orange, very fine, and rendered further attractive by the contrasting dark stamens—a valuable addition to a valuable class of plants. A similar award was made for *Alcassia Thibautiana* from Borneo, one of the grandest *Alcassias* that has ever been introduced. The plant is of stately habit, has very large deep green leaves with a distinct midrib and prominent grey veins. It will be indispensable as an exhibition plant. Also to *Aërides crassifolia* with very

large rosy purple flowers, very fine. A certificate was also awarded to the fine rare Orchid *Vanda Parishii*. Messrs. Veitch also exhibited some curious *Masdevallias* and other plants.

A valuable collection of *Liliums*, *Calochortuses*, *Alliums*, *Ornithogalums*, and other bulbous plants, also *Irises*, &c., were staged by J. T. Elwes, Esq., Preston, Cirencester. These were both choice, rare, and beautiful. Amongst them we noticed a striking variety of *Lilium auratum* var. *Wittei*, with long pointed waxy-white segments banded with yellow. *Xiphion lusitanicum* var. *sordidum* was very rich; and extremely beautiful were *Lilium parvum*, *L. Szovitzianum*, *L. Washingtonianum purpureum*, a crimson variety of *L. elegans*; also *L. elegans* var. *alutaceum*, orange-yellow. *Calochortus splendens* and *C. venusta* were particularly striking. The collection was highly commended, and a vote of thanks was awarded to Mr. Elwes.

Messrs. Barr & Sugden also arranged a varied and most attractive collection of *Liliums* in about forty sorts, also twelve splendid varieties of *Iris Kämpferii*, which were as striking as *Cattleyas*. To two of these *Irises*—Robert Parker, silvery-grey, heavily veined with violet; and Mrs. Barr, pale lavender, veined with lilac—first-class certificates were awarded. G. Maw, Esq., Benthall Hall, Broseley, Salop, also exhibited cut blooms of *Liliums*. *L. Chaixii* from the Maritime Alps—a striking form of *L. croceum*, the fine orange-yellow flowers suffused with crimson being borne in umbels and not in whorls like those of the species—was awarded a first-class certificate. *L. elegans* var. *Mawei* received a similar award. It is a very striking flower, large and richly spotted. *L. pomponium verum*, with small much-recurved crimson-scarlet flowers and very slender foliage, was highly attractive. *L. canadense* from Heavesville, Canada, had large and finely spotted flowers. Mr. Maw also exhibited flowers of the old *Salvia interrupta* from Morocco, and other old rarities.

G. F. Wilson, Esq., Weybridge, staged *Lilium japonicum* (Kramer) in variety, *L. callosum*, *L. Columbeanum*, and *L. avenaceum* from his choice collection. They were very attractive.

Mr. Turner, Slough, exhibited cut blooms of *Show Pelargoniums* in nearly seventy varieties, these were highly effective; a Tree Carnation, Lady Avenel, pure white, smooth, and fine; and a new seedling Rose, Penelope Mayo, a fine, full, excellently formed flower and bold foliage; it somewhat resembles Marie Baumann, and is fragrant. Cut Roses were also sent by Messrs. George Paul & Sons, Cheshunt, to one of which, Marchioness of Exeter, a first-class certificate was awarded—a fine Rose with recurved petals; colour rosy pink, deepening to salmon in the centre; also fragrant. A new crimson Rose, Duke of Teck, was also exhibited, but it was too fully expanded; also John Bright, rich velvety crimson. Messrs. William Paul and Son, Waltham Cross, also exhibited some seedling Roses, to one of which, May Quennell, a first-class certificate was awarded. This is a grand Rose, of fine form and with great substance of petal. The colour is warm rosy crimson, shading to magenta in the outer petals. The foliage appears also to possess the same stout texture of the flowers. We think a finer Rose than this has not appeared from Waltham. Another Rose exhibited in the same stand we thought deserving of honour—a Moss Rose named Little Gem, which will make its way as a garden Rose, and be in request for cutting. It is very small, very free, and very mossy. Some other Roses exhibited from the same nursery will be heard of again. A Rose named Burghley Yellow was exhibited by Mr. Gilbert, Burghley, and for which the exhibitor was awarded a vote of thanks. It was considered to be a very old Rose which was cultivated years ago as the "Old Yellow." The foliage is small, glaucous, and singularly formed. The blooms submitted were also well formed and of a bright Calceolaria-yellow colour. Is it a good grower, Mr. Gilbert? If so increase it, for it is a most distinct and attractive Rose.

Messrs. James Carter & Co., 237, High Holborn, exhibited a collection of Sweet Peas, including a new variety, very attractive from the curious mixture of purple and scarlet in the flowers; also some new *Eschscholtzias*, to which first-class certificates were awarded. One, a double bright yellow variety. *E. crocea flore-pleno*, and the other *E. crocea* (aureo-coccinea) Mandarin, the buds and exterior of the flowers being scarlet and the interior orange. It is the greatest advance in *Eschscholtzias* that has been yet seen, and will prove one of the most gorgeous of hardy annuals.

Mr. Cannell, Swanley, exhibited twenty-four very fine varieties of *Verbenas*, also cut blooms of Sweet Williams of an excellent strain, and received a vote of thanks.

Mr. Parker, Tooting, exhibited flowering sprays of *Freemontia californica* from a shrub which has not been protected for two years, and received a vote of thanks. It is a deciduous Californian shrub, with handsome yellow flowers as large as those of *Eschscholtzias*. Messrs. F. & A. Smith, Dulwich, exhibited new decorative show *Pelargoniums*, also a fine double crimson-and-white fimbriated *Petunia*.

Amongst other exhibits to which awards were not made we noticed flowering sprays of an *Andromeda* named *A. crassinifolia* from Mr. Ollerhead, The Gardens, Wimbledon House

(*A. crassinefolia* of Ventenat; syn. *A. speciosa* of Michaux). The sprays were laden with paper-white, globose, campanulate flowers, and were very beautiful. It is a native of Carolina, and being hardy is worthy of more extended cultivation.

OLD ROSES.

At last we—I mean myself and your correspondent “WYLD SAVAGE”—understand each other. He does not condemn old Roses and large trees of them as such, but only because they are not suitable for producing exhibition blooms for the great shows. Had he been as explicit before, he would have saved both his time and mine; but I daresay neither of us begrudge half an hour occasionally in a discussion so congenial and agreeable as that of the Rose, especially in those columns which have done, are doing, and will do so much for the increase and cultivation of both old and new Roses—Roses for the garden and Roses for the exhibition.

I cannot say for how many years I have been a reader of your Journal, nor how many times I have been entertained by the refreshing letters of my—shall I write it?—opponent. I have written the word; but it is wrong as it stands, so I will qualify it, and in all sincerity refer to him as my highly respected opponent. But although I have been a reader so long I was not aware that I could write until someone “trod on my corns,” a matter which few Yorkshiremen will endure in silence. And now the Editors have been appealing to my vanity to write more! Note that, “WYLD SAVAGE.” Is it not proof that they do not despise old Roses?—those glorious dangling masses of beauty which grace the wall, the bower, the rock with their incomparable trusses, and dispense their perfume—their own inimitable fragrance—in garden and dwelling. They may not value them so highly as they do exhibition Roses, for to the latter I see that they offer a cup which will have been won at the “National” before these lines appear in print. How I should enjoy a visit to that great tournament! but if I cannot see it I can do the next best thing—read about it. There will be grand new Roses there and good old Roses, also old rosarians and young. I hope especially that “WYLD SAVAGE” will be there to win and to write, for I like his free criticism better than elaborate formal “reports.”

The truth is that many old Roses would be found in the winning stand were as good stocks and equally good cultivation given them that are given to the new. I do not believe in the degeneration of Roses, but I do in the degeneration of Rose culture as applied to the good old sorts. When a new Rose is obtained the best stock is selected for it and the best position; and old Roses, if they are budded at all, are budded on the inferior stocks—the outsiders—the “culls.”

Your correspondent, my respected opponent, has directed my special attention to the peerless beauty of Marie Van Houtte. I grant that that is a charming Rose which all should grow who can do so; but all cannot grow that dainty gem who can grow the old, the valuable old Rose which was in such grand form at Exeter, Jules Margottin. This is a Rose that will grow anywhere—in the balmy air of Devon or Dorset, in the bleak fens of Cambridgeshire, and on the bluff moors of Yorkshire. Will Marie Van Houtte do so? I think not. As an exhibition Rose, a button-hole Rose in the opening-bud state, and as a garden Rose to grow into a tree and produce hundreds of rich glowing pink blooms, tell me—I ask the question seriously—of a better Rose than Jules Margottin?

I do not intend at present mentioning the old Roses which I have alluded to before; but one which I have not mentioned is just now opening its blooms—there will be at least a hundred of them on one “tree,” and not a few of them of exhibition quality—I mean Paul Ricant. I cannot afford to despise that good old Rose, although he does not continue blooming like another old friend, the “Jineral” (*Général Jacqueminot*). Already has that good old servant twice received honourable mention at the Rose shows this year. Talk about degeneration! I do not believe the “Jineral” will sooner degenerate than will York Minster, provided both have what they deserve—reasonable care. I have *Général Jacqueminot* as good now as he was twenty years ago; but he is on good stocks, and has his wine (liquid manure) regularly every spring just when growth is commencing. He is a noble Rose. I have him, too, on his own roots and planted in a mass with (I know it requires a Yorkshireman's nerve to write it) the old Monthly China Rose, and a valuable old white Rose one seldom hears of now-a-days—Mrs. Bosanquet. A few of *Acidalie*, another white Rose,

are growing in the same bed, a bed from which I expect to cut blooms—many good enough for exhibition—until next December, and it may be January. What other quartet of Roses will do that so well as those named?

I was about to apologise for my temerity in mentioning the old Monthly China Rose, but I will not do so, for a real lover of Roses who “went south” last year told me of its beauty at the Crystal Palace, where it is grown (he informed me) more largely than any other Rose. I can quite understand how beautiful and long-continued in its beauty it is when planted in long lines, as I am told it is at the Palace, for even in Yorkshire the bushes are laden with blooms throughout the summer months. It is the first Rose and the last, rendering the garden cheerful and the vicarage rooms gay.

Let me say another word in favour of Mrs. Bosanquet. If the frost cuts it down to the ground it springs up vigorously, and the same season produces chastely-formed almost pure white flowers, than which few are more welcome when out for vase decoration; and the more you cut the faster they seem to come, continuing almost throughout the season. It is also one of the best of Roses for forcing, at least for such quiet forcing as a quiet family like ours requires. We start a vinery on the 1st February, and fill it with Roses, and the Rose that gives nearly the earliest blooms and always the most of them is Mrs. Bosanquet.

If I say anything about *Gloire de Dijon* it will be a simple record of my opinion that it is the most useful light-coloured Rose ever raised, as I think Jules Margottin is the most useful of deep pink colour, and the “Jineral” the most serviceable crimson.

I have some other old—no, not old, but only oldish—Roses for which I have a liking, and I think “WYLD SAVAGE” might like them too, because they are not only good garden Roses but yield exhibition blooms. They are Charles Lefebvre, *Sénéateur Vaisse*, Alfred Colomb, La France, Baronne de Rothschild, John Hopper, Comtesse de Chabillant, Exposition de Brie, Marquise de Castellane, and a few others which I expect will be honoured at the National Show. I have also some newish Roses, which I shall not now further refer to than to say that, good as they are, they will not drive the old favourites out of the garden, for the old Roses give blooms by hundreds when the new Roses give them only by dozens, and often not at all.

But I have one new Rose which under glass is a gem, only feed it well and thin out its buds. It is Madame Lacharme. “WYLD SAVAGE,” recant! Did you not once “speak ill” of this fair Rose?—A PARSON'S GARDENER.

[He has recanted.—EDS.]

CARBOLIC ACID VERSUS MICE.

WE have been very much troubled with mice in the kitchen garden this spring. Half of the seed was taken out of some of the rows immediately after it was sown. I tried nearly everything I have ever seen recommended to keep mice from destroying the seed, and not one of them was so effectual as coating the Peas over with carbolic acid, and allowing it to dry on before sowing.—J. H. Y.

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

KITCHEN GARDEN.

WE hear of genial showers of rain in the neighbourhood of London. The crops on the dry and loose soil of the Essex level have suffered from the prolonged drought, but as far as the kitchen garden is concerned we make our preparation in the winter by deep digging or trenching, and manuring with moist cow and stable manure placed at a considerable distance under the surface of the ground, and our crops have not yet suffered. “J. B. K.,” writing in last week's Journal on the substitution of artificial manure for Roses, may be quite right in regard to the chemical nature of the constituent parts of the fertilisers, but we would prefer manure. It is not so much the amount of water the manure contains when it is applied to the ground as its capability to absorb and retain water until it is needed in the summer that renders it valuable, and more unfortunate still would be the want of manure for mulching the ground after watering. Other substances might be placed on the surface, but we do not know any so valuable as good manure.

It is a good plan to sow such crops as late Peas in shallow trenches. Dig out the trench first, say 4 inches deep, and then draw a drill in the bottom of it and sow the seeds. The crops

do not require any earthing-up, as enough soil for this purpose falls in the bottom of the trench when water is applied. When crisp Lettuces, Radishes, and other salads are required at this season the best place to sow the seeds is under a wall facing north, and even there it will be necessary to water freely in hot dry weather.

Peas are bearing well. William I. has been the earliest, although it was closely followed by Alpha, a better Pea as regards flavour, although the first-named sort would be much the best variety for market purposes; the pods are larger and of a deeper green colour. If Leeks are not planted no time should be lost in getting them out. They ought to be planted early in June, or even in May, to give the best results. The variety called the Musselburgh is considered the best. In Scotland every garden has its bed or quarter of Leeks, and they are used all through the winter months. They are planted in rows a foot apart, and 9 inches between the plants. A rather deep drill should be drawn first, planting in the bottom of the drill. The portion of the Leek most esteemed is that part which has been blanched under ground, and well-grown specimens will have a foot in length blanched, and be very nearly as much in circumference. The cottagers in Scotland reserve the best pig manure for their Leeks, and the plants are not allowed at any time to suffer by want of water.

VINERIES.

Red spider, which has not been very troublesome until the last two weeks, is now showing itself. We still hold that painting the pipes with sulphur that has been made into a thin paste by means of soapy water is the best way to destroy this pest. Many good gardeners, amongst them the late Mr. Pearson of Chilwell, doubted this. It is a question whether they have applied the sulphur in the right way. We have usually heated the pipes first to the proper heat, and then applied the mixture. It is just possible that if the pipes were gradually heated to the required temperature after the sulphur has been applied the effect of it might not be so apparent. We generally find the spider has been destroyed after three dressings. A correspondent last year recommended heating shovels to a certain temperature and then dusting the sulphur on to them. This we have done this year, and although many spiders were seen alive after the operation, they received a considerable check; and if we had persisted in it four nights instead of two possibly it would have been entirely destroyed. We shall soon clear the Grapes both from the early Hamburg and Muscat houses, when it will be an easy matter to destroy the spider by syringing the leaves. The difficulty usually is to retain the leaves in a healthy state until the fruit has been cleared off.

Where Grapes are nearly ripe in succession houses it is probable that there may be some small or shanked berries on some of the bunches; these ought to be carefully removed at once, as they serve to spoil the effect of a whole houseful of Grapes. Black Hamburg Grapes colour best if they are shaded by the leaves; but to produce the rich amber so much esteemed in Muscats it is better to push the leaves gently aside, or even to remove them altogether. The same remark applies to most other varieties of white Grapes.

We have just finished thinning-out the Grapes in the late houses. We close early and keep the atmosphere rather moist. Artificial heat is not needed in any of the houses; for even if the thermometer does fall considerably at night it is only for an hour or two, as by shutting up with sun heat early in the afternoon the temperature does not fall below 70° until near midnight, and the sun begins to have an effect on the temperature between 4 and 5 A.M. We would rather have the lower night temperature, as under that treatment red spider is not so likely to attack the leaves.

Vines in pots which have been grown-on for early forcing will now have completed their growth, and it will be well to see that the wood is sufficiently ripened; this will not be done by withholding water and admitting plenty of air. Although the wood appears to be ripe it may not really be so. The main object of the cultivator is to develop the buds from which the fruitful spurs will start next season. To do this water must be applied to the roots and leaves as usual, and a high temperature should be kept up. If the Vines are not (as they ought to be) already in their fruiting pots, lose no time in potting them as previously directed.

PLANT STOVE AND ORCHID HOUSES.

The hot drying weather has necessitated much watering and syringing. It is certainly better to keep plants clear of insect pests than it is to destroy those pests after they have become established on the plants, and to keep the plants clean it is necessary to see that they are in a healthy growing condition; and those plants that will bear syringing ought to be dewed overhead at least twice a-day, and in some instances the water ought to be applied with considerable force. Watering must also be carefully attended to. A plant may be either over or under watered, but this will not really happen with those who understand their work and give the requisite amount of attention to it. It is better to allow the potting or such work to stand over

for a few days than to neglect the watering of plants when they are in full growth.

We have been basketing and repotting Orchids. Where there is a large collection of these interesting plants to attend to, those in charge of them find plenty of employment for every day in the year; and almost every month from spring until autumn something requires to be done in the way of repotting, basketing, fixing on blocks, &c. When the wants of the plants are known there are few subjects more easily grown, but if a check is experienced from any cause it may be years before the plant recovers. Another thing, you must not be in a hurry with them—they will not be driven. If an Orchid flowers a month or two earlier this year than it did last, this we consider evidence that the temperature is too high, and probably if this should be continued the plants will sicken and die. When they flower about the same time each year it is reasonable to suppose that the temperature at least is suitable. The beautiful *Masdevallias*, which are so easily grown and increased, are not new introductions; at least, not all of them, but those that were introduced prior to the cool-house system perished miserably. The same fate befell many of the choice *Odontoglossums*, which are quite as easily managed as the others. We have now learned to avoid the rock on which our predecessors foundered, and we keep the cool Orchid houses cooler than the outside air during the summer months. *Masdevallias* and *Odontoglossums* have been repotted, and as the plants require a considerable supply of water the pots are filled about three-fourths of their depth with potsherds. Cattleyas, such as *C. Warneri*, *Mossiae*, *Mendelii*, &c., have been repotted. These species are now making fresh roots, but we find that after repotting they do not flower so freely the next season. Large specimens require repotting but seldom. Some of the best cultivators say once in seven years is often enough, others say they ought to be repotted every alternate year. We saw at Messrs. Veitch's nursery, King's Road, Chelsea, the other day, many large specimens that had not been repotted for many years. The leading growths had grown over the sides of the pots, and a wig of roots depended from their base, showing conclusively that the roots were aerial, and depended for their sustenance not from what they extracted from the potting material (into which they had no inclination to travel), but from the atmosphere. It is so with many Orchids; they do not succeed until a large proportion of the roots hang over the sides of the pots. After repotting a moister atmosphere is maintained than previously.—J. DOUGLAS.

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

BOOKS (*T. J. C.*).—You must apply to the publishers, Messrs. Bell & Co.

TRAPS ON VINES (*M. D., Forest Gate*).—The leaves sent are very much infested with thrips. When a few leaves only are attacked an excellent remedy is to sponge them with strong soft-soap water made by dissolving 4 ounces of soap in a gallon of water. If all the leaves are covered with insects fumigate the house with tobacco on two consecutive nights, then syringe the Vines as heavily as possible, directing the water between the bunches. In a week or ten days other insects will appear from eggs deposited on the Vines, and fumigation must be repeated.

ATLANTUS (*A Diligent Reader*).—The leaves you enclose are not *Ailantus* leaves.

BOXES FOR SHOWING ROSES (*A. D.*).—The boxes which close for travelling can be made by any carpenter, and of the size desired. We know of none ready made. The Rev. Canon Hole has given the following dimensions and instructions:—

	Length.	Breadth.	Height.
For 24 Roses,	4 feet.	1 foot 6 ins.	Back of box, 6 inches, front 4.
" 18 "	3 feet.	" "	" " " "
" 12 "	2 feet 2 ins.	" "	" " " "
" 6 "	1 foot 6 ins.	" "	" " " "

The covers, being 7½ inches in depth at the back, and 5 inches in front, 4 feet 1 inch in length, 1 foot 7 inches in breadth, and having a narrow beading within the four sides, half an inch from the bottom of the lid, overlap the boxes, leaving ample room for the Roses, and are secured for travelling by stout leather straps. Within the boxes some exhibitors have holes pierced at equal distances on a uniform surface of wood; but as Roses differ in size, it is more convenient to have the facility of placing them where we please, and for this purpose it is desirable to have strong laths (three-fourths of an inch in depth, and 1½ inch in width) extending the length of the box. These laths should be six in number, and should be nailed on two strong pieces of wood, crossing the box one at each end, 2 inches below the surface. The upper and lower laths should be fixed one-eighth of an inch within the box, and the four remaining so arranged that there will be five interstices 1½ inch in width—three for the Roses, and two merely to reduce the weight. There will be a space of 1½ inch between the laths and the upper edge of the box, to be filled as follows:—Cover the laths with sheets of brown paper, two deep, and cut to fit the box, and upon these place the best moss you can obtain."

DRAEENA UNHEALTHY (*E. H. B.*).—As you do not state what *Draeena* it is "looking rather shabby," we cannot say whether it ought to be planted out during the summer or not. A book which gives simple and brief directions for the culture of these and other subtropical plants, can be obtained from Mr. B. S. Williams, Victoria Nurseries, Holloway, London.

PROPAGATING LEUCOPHYTON BROWNI (J. B.).—The above is the name of the plant of which you have enclosed a spray. Full information on the best mode of propagating it appeared in No. 517 (June 21st) of the present volume of *The Journal of Horticulture*.

ANTS ON PEACH TREE (E. D. Lyon).—Invert a saucer in a larger saucer, keep the latter filled with water, and place the pot on the inverted one.

ROSE CUTTINGS FOR NEW ZEALAND—Nelson asks for information how and when to send them. We shall be obliged by a reply from anyone who has succeeded.

ROSES FOR EXHIBITING (Tyro).—The best blooms are produced from buds which have continued dormant until the spring after they were inserted. For destroying aphides try the weaker solution you name, and if it fails increase the strength.

RANUNCULUSES (A. Boyle).—They are apparently the Dutch Ranunculus imported by the seedsmen, and are described in their catalogues as Persian Ranunculus.

FERNS (S. Elliott).—There is a list of them and cultural directions in the "Garden Manual," published at our office.

ROSE BUDS INJURED (J. F.).—High winds and low temperature have shrivelled the points of the buds.

NAME OF ORCHID (J. B. C.).—*Dendrobium Paxtonii*.

NAMES OF PLANTS (J. P. Allen).—1, *Negundo fraxinifolia*; 2, *Rhamnus alpinus*. (H. R. C.).—1, *Homocallis flava*; 2, *Diplacus glutinosus*.

POULTRY, BEE, AND PIGEON CHRONICLE.

POULTRY AND BIRD NEWS.

We hear that a controversy is being waged in southern Ireland on the identity of a song bird. The London *Standard* says, "A golden-throated chorister has been ravishing belated listeners with its woodland notes from the grove by Nenagh Mills for nights past." This bird is supposed to be the Nightingale, and its strains, we are told, are very beautiful. But, unfortunately, Goldsmith, Stewart, Marshall, and other authorities maintain that the Nightingale never visits Ireland, and so students of natural history imagine that this songster is a Blackcap, or Woodlark, or Reed Sparrow, all of which warble sweetly at night. We believe this is the first occasion upon which a controversy has ever been started upon the subject, so certain have our Irish friends been hitherto that no Nightingale has sung in their woods and glens.

Lord Huntingfield's gamekeeper recently shot a fine specimen of the Osprey Eagle. It measured from tip to tip 5 feet 2 inches.

It is wonderful how tame birds become by kindness. The Rev. C. Humphrey Cholmeley of Dinton Rectory, Wilts, has for some years been in the habit of placing portable birds' nests about his garden. They are formed from decayed branches of trees, and are hollowed out, with a small hole made in the side to admit the bird, while a lid on hinges closes the top. Tits of all kinds, Nuthatches, &c., have annually built in these nests, and the other day we had an opportunity of seeing them and their inmates. One, which was placed on a ledge on a kitchen garden wall, most especially pleased us. It contained a family of ten little Blue Tits, which when fully fledged were piled one on the top of the other. This nest was not only daily removed from the wall for inspection, but was carried about for visitors to look at, and on some occasions was even taken indoors for several minutes. The parent birds were, however, not the least disconcerted, and waited on a neighbouring tree, caterpillar in mouth, for the return of their family, evidently feeling quite certain in their minds that their brood was in safe custody and had not fallen victims to a devastating cat or any such creature of prey.

A gentleman, whom many of our readers knew as a most successful exhibitor of poultry, about three years ago went out to Natal to farm Ostriches. He tells us that the present fashion of Ostrich feather-trimming for ladies' hats, jackets, dresses, &c., has very greatly improved the trade, and has increased the price during the past few years about 20 per cent. In 1874 feathers were used in England to the value of nearly half a million of money. For these Ostrich farms but little capital is necessary, and the risk is small. Another one engaged in it says, "I hold that from 300 to 400 per cent. of profit can safely be calculated on upon the outlay both for birds and other expenses, such as enclosures, plucking stalls, 'kraals,' and land rent."

Two men, named Reuben Williams and James Cameron, were convicted of fraud at the Central Criminal Court last week. They had painted a Sparrow to imitate a Bullfinch, and had sold it as such. James Cameron was sentenced to six months' imprisonment, and Reuben Williams to half that period, but both with hard labour.

We read in a contemporary that from a Blackbird's nest near Southend-on-Sea have recently been taken two "snow white Blackbirds." Their eyes are pink, and they are very promising specimens. The same contemporary tells us this pair of birds are on view alive at Mr. W. Nickats, Ingleside, Edmonton. We have seen white Blackbirds and also pied specimens, but never two snowy white from the same nest.

We learn from *Land and Water* that Mr. Bell has succeeded in rearing some young Emus in Dumfriesshire. The female bird laid nineteen eggs, and the male was allowed to sit upon eleven of them, of which six have hatched. We hear these little ones are growing fast, and are very beautiful to look at, being striped with black and white. They are being fed upon biscuits crumbled and mixed with oatmeal and green food. We consider this very interesting, and hope Mr. Bell may be fortunate in bringing them up.

It will be remembered that Mr. T. C. Burnell had his beautiful Dorking cock (second prize, we believe, as a cockerel at the Aquarium) mispenned at Banbury. The Committee have awarded this bird an honorary first prize most deservedly, Mr. Burnell with his kind thoughtfulness having objected to putting the Committee to the expense of awarding a prize in money, though the mispennings we conclude originated with them, the bird having been penned in the disqualified pen, which pen we at the time mentioned in our report.

Incubators seem to be creating a sensation at the present time. This is truly an excellent occasion, for eggs are now cheap, and the risk of hatching is perhaps smaller. So those wishful of starting an incubator during the coming spring would do well to try at once, so as to get their hands in. We hope to give a paper on the subject at an early date.

We hope that one of the next chapters of the "Basses Cours" will be on the very celebrated yards of the Countess of Dartmouth, to be followed by those of the Rev. Hans Hamilton, Mr. Q. B. C. Breeze, Mr. Leno, and others.

Messrs. Cassell, Petter, & Galpin are bringing out in monthly parts a book on Canary birds, &c. Each part will be richly illustrated, and the whole work will be such as has never before been attempted by any one authority.

A circular is in existence concerning a poultry farm. We would recommend all our readers to carefully study the matter before taking a share. We cannot imagine that those experienced in poultry lore have set this scheme afloat. The circular states that in June chickens from fifteen to sixteen weeks old may command the price of 4s. 6d. to 8s. each. We can only say that in the country we are now able to procure a brace of really good fowls for 4s., and we cannot believe these prices would remain so low if in London one bird will make more than that sum. We do not know where this farm would be situated, but we see 1s. 6d. per dozen is charged for eggs, while no carriage expenses are put down in the list of expenditure. We are now living two hours from London, and from the first week of March to the present date we are able, and have been able, to procure freshly laid eggs at 1s. the score. This speaks for itself, and novices should be on their guard.—W.

THE BIRMINGHAM POULTRY EXHIBITION.

A MEETING of the Committee was held at Bingley Hall on June 25th, under the presidency of Mr. G. C. Adkins, for the purpose of revising the schedule of prizes for the coming year. A number of alterations were made, and some of the prizes slightly reduced, in order to find money for one or two additional classes without increasing the total amount to be competed for.

For instance, the value of the cups in the Brahma classes were reduced from £5 to £4 to put them on a par with the other breeds; and the second prize in several cases, where the entries are usually small, was reduced from £1 to 10s. In the class for Cinnamon and Buff Cochins the first prizes were increased from £2 10s. to £4, and the two special cups for this breed abolished. The prizes for Black Cochins were increased. Hitherto the old and young birds have competed together, but henceforth they will have separate classes. A new class was introduced for Langshans, cock and hen of any age, with prizes of £2 and 10s. Considerable alterations were made with regard to the selling classes. Up to the present time they have been confined to Brahma Pootras, Dorkings, and Cochins, but a new class has now been opened for all other varieties, with prizes of £2, £1 10s., £1, and 10s. The entrance money has been reduced in these classes from 8s. to 5s. per pen, and the maximum price is in all cases fixed at £2 per pen.

Coming to the Pigeon department the classes for Short-faced Balds and Beards were again amalgamated, as the change did not come up to the anticipations of the Committee. An additional prize is given to the Tumblers of any other variety, and the Trumpeters are divided into two classes—mottled and any other colour. The silver cup hitherto given to Runts, Archangels, and Fantails will be competed for by the two former breeds and an extra one given to the Fantails; a third prize is given to the Fantails of any other colour. An additional silver cup is offered for Jacobins, and that hitherto competed for by Jacobins, Turbits, and Owls will be devoted to the two latter kinds. An extra silver cup is given to the Dragons and also to the Antwerps. A selling class is opened for a pair of any variety of Pigeons, with prizes of £2 and £1, the price of the pen not to exceed £2.

It was unanimously resolved that the Council should be requested to permit the poultry Committee to publish the names of the Judges in their department of the Exhibition before the closing of the entries. This was done on the last occasion, and gave such universal satisfaction to the exhibitors that there cannot be any doubt as to the result of the application. This practice is now followed at all the leading shows, and when the gentlemen selected have the confidence of the public, as is always the case at the Birmingham Show, the number of entries is materially increased.

DONCASTER POULTRY SHOW.

THE fifth annual Show of the Doncaster Agricultural Society took place last week on Wednesday, Thursday, and Friday. Previously a well-wooded park has been at the service of the Committee; but in this case the race-course with its permanent sheds was brought into use, the poultry, &c., being well protected, but the visitors finding the loss of the splendid foliage, which was a great protection from the heat of the sun. The entries in poultry and Pigeons were not large, but the prizes were very good, and some capital quality competed for the honours.

Game headed the list with single cocks, the awards being made to Brown Reds in all cases. Singularly one of the best in the class was not noticed, pen 436 (Fludger). The only fault was the tail was a little too heavy. The first going to a badly squirrel-tailed bird; the second in our opinion being the best all-round bird. Black Reds in pairs a good class; the first a grand pair, and the cup for the best Game awarded to them, although closely pressed by the second-prize pen, which contained a powerfully built cock; third grand in shape but sadly faded in colour. Brown Reds good in quality, but first no match in legs. Duckwings were queerly placed; first a bird bad in all respects, but the hen a real good one. By far the best two pens were Martin's (placed third), and Mason's (highly commended). Any other colour were good Piles and rightly placed. *Dorkings* had two classes and were all well placed, the Silver-Greys being especially good. The cup for the larger varieties was given to a capital pen of *Spanish*, the class being very good throughout; pen 488 (Bolton) contained a grand cock. *Brahmas*, Light, a fair lot and well placed, as also the Dark *Brahmas*. In *Cochins* the winners should have changed positions; the second pen good all round, and the cock of such colour as is rarely seen; the first not in the best order. *Hamburghs* not numerous but good and well placed throughout, as also the *Polish*. *Bantams*, Red, first Black Red, good in style and general quality, to which we would have awarded the cup, which, however, went to a pen of Duckwings, the cock in which was not in the best order; the second in our opinion being superior. In Reds we liked a pen of Brown Reds, but the cock was light in eye, and in consequence was thrown out.

Pigeons were not well provided for as regards classes, and the entries in consequence very few, the best in the Show being the Antwerps and a few pens in the Variety class, and the awards were well made throughout.

POULTRY.—GAME.—Cock.—1, W. & H. Adams. 2, C. W. Brierley. *Black-breasted and other Reds.*—Cup, C. W. Brierley. 2, J. Fletcher. 3, W. & H. Adams. *Brown and other Reds, except Black-breasted.*—1, W. & H. Adams. 2, C. W. Brierley. 3, Sales & Bentley. *Duckwings and other Greys and Blues.*—1, Sales & Bentley. 2, Dr. Cameron. 3, H. E. Martin. *Any other variety.*—1, H. Mason. 2, R. Walker. *Dorkings.*—Silver-Grey.—1 and 2, W. Roe. 3, Mrs. Whitwell. *Any variety.*—1, B. Smith. 2, E. Snell. 3, J. Walker. *SPANISH.*—1, J. Powell. 2, J. Boulton. 3, R. Newbitt. *COCHINS.*—1, J. Walker. 2, H. Tomlinson. 3, R. P. Percival. *BRAHMAS.—Light.*—1, J. Cherry. 2, R. P. Percival. 3, J. T. Wolstencroft. *Dark.*—1 and 2, J. F. Smith. 3, J. Walker. *HAMBURGHES.—Silver-spangled.*—1, H. Beldon. 2, Holmes & Destier. 3, J. Rawnsley. *Silver-pencilled.*—1, E. Snell. 2 and 3, H. Beldon. *Gold-spangled.*—1 and 2, H. Beldon. 3, Holmes & Destier. *POLANDS.*—1 and 2, H. Beldon. 3, R. Newbitt. *BANTAMS.—Black-breasted and other Reds.*—1, E. Newbitt. 2, A. S. Sugden. 3, W. F. Entwistle. *Game.*—Cup, R. Newbitt. 2, F. Holt. 3, W. Roe. *CREVES.*—1, T. Derry. 2, H. Beldon. 3, Robinson & Myers. *ANY VARIETY.*—*Chickens.*—1 and 2, B. Smith. 3, Dr. Cameron. *GUINEA FOWLS.*—1, E. Snell. 2, F. Clater. *TURKEYS.*—1, J. Walker. 2, W. Wykes. *Ducks.*—*Aylesbury.*—1 and 2, J. Walker. 3, R. Newbitt. *Rouen.*—1, J. Walker. 2, E. Snell. *Any other variety.*—1, J. Walker. 2 and 3, W. & H. Silvester. *GEES.*—1, J. Walker. 2, H. Beldon. **SELLING CLASS.**—1, E. Newbitt. 2, C. W. Henshall. 3, H. Elwis.

PIGEONS.—CARRIERS.—1, J. E. Crofts. 2, O. E. Mason. *JACOBINS.*—1, J. E. Crofts. 2, W. Parkinson. *ANTWERPS.*—1 and 2, W. F. Entwistle. *ANY OTHER VARIETY.*—1 and 2, J. E. Crofts. *FANTAILS.*—1 and 2, J. Loversidge. **SELLING CLASS.**—1, A. & W. H. Silvester. 2, O. E. Mason.

JUDGE.—Mr. J. Dixon, Bradford.

AQUARIUM CAT SHOW.

JUNE 27TH, 28TH, and 29TH.

Of the arrangements we can say "Very good indeed." Clearly printed catalogues, very sweet hay, red cloth cushions with cruciform-shaped brass nails to suit the advanced party, and yet not to dispirit "the other one," apparently very sweet milk, and competent Judges, whose names were Mr. Tegetmeier and our old painting friend Mr. Harrison Weir.

There were 181 Cats, many of them "Londoners," perhaps among them some of those roof-and-tile frequenters; but there were champions too there, heroes and heroines of many exhibitions; but we were sorry to find so many good specimens

entered in wrong classes. We noticed several good ones in wrong departments; and though many of the crowd of visitors were ignorant of this wrong classification, still we saw at a glance that several good animals were put out of competition in consequence. Short-haired male Tabbies we much admired. In Reds the cup went to an animal in lovely condition; while the second was also of great excellence, being beautifully marked, and the fur very glossy and bright. Black-and-white and the Black Short-haired males were not so good, and some prizes were withheld, while in Whites there were no entries at all. In the Long-haired White males Miss Hales took the only prize that was awarded. Her animal was a good one, but he did not appear to advantage when we looked at him. In Long-haired Tabbies Miss Brasey won the cup with a nice Cat, looking well, and the coat in bright condition. Mrs. Scarnan was a deservedly successful exhibitor. Her Short-haired Tortoiseshell female we liked immensely. We do not know if this individual Cat won a prize, as it had no card when we saw her, but her Short-haired gelded animal was in fine coat, and won, we believe, first in its class. The black on Miss Hales's Long-haired gelded Cat was very deep and glossy, and the creature was in good looks generally, while the fur on the first Long-haired female (Miss Sprague), was of beautiful texture and very white. In the Long-haired female variety class Mr. A. F. Turnbull, we believe, won the cup; while the same exhibitor also won the cup for kittens under six months old. There were three Selling classes for Short-haired and Long-haired adults, and for kittens. The latter class was especially well filled, and we noticed several nice animals. The awards in the Long-haired department were made, we believe, by Mr. Harrison Weir, while the remainder were taken by Mr. Tegetmeier.

The attendance was good, and we hope the Show has proved in every way the success it deserves to be. The date for the Exhibition was a good one; and in the height of the season many paid to go in and see these Cats and toy Dogs which would probably at any other time have not otherwise have done so.—W.

ACCRINGTON SHOW OF POULTRY, &c.

THE Show of the Accrington Society was held on the 28th ult. The entries were very good in all sections, and some capital birds were shown. In *Game* the cocks were in far better bloom than the hens, and in the first class—viz., that for Reds, we recognised an old acquaintance (the Otley cup bird) in first position. The second also very good. *Dorkings* were not numerous, but were pretty good; and *Cochins* also good and well shown. *Spanish* only five pens, and these very good; the second particularly fine in face, and the cock grand in comb. *Hamburghs* were, as usual, very good and well placed, although the entries were not large, only one pen of Silver-pencils putting in appearance. *Game Bantams* were a good lot, perhaps as good as any section, and being shown singly looked well, the cup going to a Black Red cock which we considered rather large. Any other variety were in pairs, the first going to a pen of Pekins, second to Black, and third to White Rose-combed.

Pigeons were single birds, except the Variety class, which were in pairs. Carrier cocks were a grand class, as also the hens in the first. Blacks were the winners, and in the second a Dun was first, Blue second, and Black third; the Blue an extraordinary bird for the colour. *Pouter* cocks.—First a Black in fine show, second Blue, and third white. In hens the first was a slashing Black in capital trim. Second and third Blues not as well up as the first nor as large, but both good. *Tumblers* only three—first and second Almond, and third Red, Whole-feather. *Dragoons* were about the best classes of the Show if we except the Magpies, which were all noticed. *Cocks.*—First a Blue, second Blue Chequer, and third a Blue, the first most beautifully tinged with black all over the eye cere. *Hens.*—First a Yellow, second a Silver, and third a Blue. A good class. *Barbs.*—First a Black hen which is difficult to beat; second a Black, and third a Red cock, the latter out of condition. In *Jacobins* the winners were Reds. *Antwerps (Short).*—First a Dun, second also, and third Red Chequer; three good birds. Many others too long for the class. *Long-faces.*—Only the winners as they should be. First and second Duns, and third Red Chequer. *Turbits* were a fair class. The first, a Silver, was good all round; second Silver, with splendid head; and third Black, but rather large. There were not many good ones in *English Owls*. The first a moderate Silver; second the best—a Blue, but in moult, and not fit for the show pen. *Nuns* a nice lot.

Rabbits mustered well, but in Lops there were only four. First a Fawn-and-white buck, 23½ by 5, in nice bloom and grand style; second a Blue-and-white doe of high quality, very soft in ear and exquisite in fur, 22½ by 4½; very highly commended a Black-and-white doe, and a Fawn-and-white, 22 by 4½. *Angoras* were, as a whole, one of the best classes ever seen. Surely they have their home in Lancashire. The exquisite fineness of wool, neatness of ear, and general quality would be difficult to surpass. *Himalayans.*—The first a grand one, and the

others moderate. Dutch.—First Black-and-white, about correct in marking, as also the second, Blue; the rest, though good, being somewhat irregular. Silver-Greys a very good class, and all noticed. In the Variety class first was a real good Silver Fawn, and second a Belgian Hare; and in the Selling class first was a Silver-Grey, and second a Himalayan. Only one Lop was good, and that out of condition.

Of *Cats* there were but four, the first being a pretty fair Silver Tabby.

POULTRY.—GAME.—Black or Brown Red.—Cock.—1, W. & A. F. Fenwick. 2, C. W. Brierley. 3, R. Garnett. *Hen.*—1, T. P. Lyon. 2, J. Cock. 3, R. Braithwaite. *Any colour.—Cock.*—1, J. F. Walton. 2, J. A. Nelson. 3, T. P. Lyon. *Hen.*—1, R. Walker. 2 and 3, O. W. Brierley. **Local Class.—Cock**—1 and 2, R. Bolton. 3, J. Greenhalgh. **DORKINGS.**—1, J. Walker. 2, G. Lancaster. 3, Mrs. T. W. L. Hind. **COCHINS.—Buff or Partridge.**—1, R. J. Wood. 2, J. C. Rigg. 3, H. Robinson. *Any other variety.*—1, K. P. Percival. 2, T. P. Lyon. 3, T. F. Ansell. **SPANISH.—Black.**—1, J. Aldridge. 2, J. Powell. 3, H. Wilkinson. **BRAHMAS.**—1, T. F. Ansell. 2, G. W. Henshall. 3, J. F. Smith. **HAMBURGHS.—Golden-pencilled.**—1, W. A. F. Fenwick. 2, G. & J. Duckworth. 3, J. Anderton. *Silver-pencilled.*—1, J. Stutard. *Golden-spangled.*—1 and 2, G. & J. Duckworth. 3, J. Rawnsley. *Silver-spangled.*—1, A. J. Harrison. 2, J. Stutard. 3, H. Pickles. **Black.**—1, W. Wilson. 2, C. Sedgwick. 3, H. Pickles. **FRENCH FOWLS.**—1 and 2, M. Hall. 3, G. Furness. **ANY OTHER VARIETY.**—1, M. Nichols. 2, P. Unsworth. 3, G. Furness. **LOCAL CLASS.—Any variety except Game and Game Bantams.**—1 and 2, G. & J. Duckworth. 3, R. Riley. **SELLING CLASS.**—1, T. Aspdin. 2, G. & J. Duckworth. 3, Fletcher & Hutchinson. **GAME BANTAMS.—Black or Brown Red.—Cock.**—1, J. R. Robinson. 2, T. Sharples. 3, G. Hall. *Hen.*—1, J. R. Robinson. 2, G. Simpson. 3, E. Walton. *Any other colour.—Cock.*—1 and 2, E. Walton. 3, G. Hall. *Hen.*—1, E. Walton. 2, Bellingham & Gill. 3, J. R. Robinson. **Local Class.—Cock.**—1, H. Hargrave. 2, C. Cronshaw. 3, A. Worsley. **BANTAMS.—Any variety except Game.**—1, H. B. Smith. 2, J. W. Crowther. 3, T. Green. **TURKEYS.**—1, J. Walker. *GESE.*—1, Capt. L. Anyon. 2, J. Walker. *DUCKS.—Aylesbury.*—1, J. Walker. 2, J. Hedges. 3, E. Snail. *Rouen.*—1, P. Unsworth. 2, J. Walker. 3, J. A. Nelson. *Any other variety.*—1, J. Trickett. 2, J. Walker. 3, H. B. Smith.

PIGEONS.—CARRIERS.—Cock—1 and 2, J. Kendall. 3, T. H. Stretch. *vhc.* W. Brown. *C. Stretch.* *Hen.*—1 and 2, J. Kendall. 3, E. C. Stretch. *vhc.* W. Brown. **POUTERS.—Cock.—1, C. Wroot. 2, J. Kendall. 3, A. Simpson. *vhc.* J. Kendall. *P. Wilson.* *Hen.*—1, C. Wroot. 2 and 3, J. Kendall. **TUMBLERS.**—1 and 2, H. Yardley. 3, H. R. Tenney. **DRAGONS.—Cock.—1 and 2, R. Woods. 3, C. Waddington. *vhc.* T. Knowles. *R. Woods.* *J. Garden.* *Hen.*—1 and 2, R. Woods. 3, J. Kendall. *vhc.* J. F. Newall & Co., C. J. Pearson. **BARNES.**—1, W. Harrison. 2, S. Fletcher. 3, J. Walker. *vhc.* J. Walker. 3, J. Garden. **FANTAILS.**—1, H. R. Tenney. 2, W. Dugdale. 3, J. F. Loversidge. **MAGPIES.**—1, R. Woods. 2, J. F. Loversidge. *vhc.* H. R. Tenney. 3, J. B. Bowdon. *J. B. Bowdon.* *NUNS.*—1 and 2, J. B. Bowdon. 3, H. Mitchell. *ANY OTHER VARIETY.*—1 and 2, J. Kendall. 3, S. Dyson. *vhc.* A. Simpson.****

RABBITS.—SPANISH.—1, T. Moss. 2, T. & E. J. Fell. *vhc.* W. T. Millett. *T. W. Brown.* **ANGORA.**—1, J. Woodward. 2, S. Buckley. *vhc.* G. W. Deakin. *H. Woods.* *T. W. Baron.* *T. & E. J. Fell.* **HIMALAYAN.**—1, J. Robertshaw. 2, T. & E. J. Fell. *vhc.* W. T. Millett. *W. T. Millett.* *J. Foster.* *Owen.* *vhc.* S. Ball. *T. & E. J. Fell.* *H. Woods.* *J. Robertshaw.* **SILVER-GREY.**—1, T. & E. J. Fell. 2, H. Woods. *vhc.* H. Woods. *T. & E. J. Fell.* *ANY OTHER VARIETY.*—1 and 2, T. & E. J. Fell. *vhc.* T. W. Baron. **SELLING CLASS.**—1, T. W. Baron. 2, H. Furness. *vhc.* J. E. Pilgrim. *T. & E. J. Fell.*

CATS.—ANY VARIETY.—1, A. Boulton. 2, E. Stead.

JUDGES.—Poultry: Mr. R. Teebay, Fulwood, Preston; Mr. S. Fielding, Trentham, Stoke-upon-Trent. **Pigeons, Rabbits, and Cats:** Mr. E. Hutton, Pudsey, Leeds; Mr. W. Sefton, Balacure, Blackburn.

RUGBY SHOW OF PIGEONS, &c.

The fourth annual Show was held at the Workman's Club on Wednesday the 27th ult. The room was rather small, but the specimens so well disposed three tiers high that much space was economised, and the light pretty good in most cases, all being well attended to with food and water; and the Rabbits, with clean hay and green food, were very comfortable, some litters even being sent with their dams.

In *Pigeons* Pouters headed the list, but the pens were too small, and the greatest difficulty was experienced in getting them to show. First, a White cock in grand order, slender in girth, and good in limb; second also White, very good, but not quite in the same show; and third a Blue, good, but somewhat flat and bishop-winged. All the rest being noticed. Carriers, a grand class of eleven. First a Dun cock, a cliniker in all respects; second and third almost equal Blacks. Fantails a wretched lot, if we except the first-prize Blue and second White. In Tumblers, Almonds won all the prizes. First a hen, and second and third cocks. Owls, first a Blue English cock, which would have taken the special but that his face was in moult; second a neat White African; and third a grand Silver English. Turbits good; first Red, second Yellow, and third Blue; the last best in head, but very foul-thighed. Jacobins—first Red, second Yellow, and third Red. Three good ones. In Dragons first was a very extraordinary Yellow, to which section extra was given; second and third Blues. Antwerps a particular good class, and the winners all Red Chequers. The first in all respects a Short-face. In the Variety class first was a good Black Barb, second a Blondinette, and third a Satinette. The Selling class was large and good.

Rabbits were a splendid entry considering the smallness of the prizes, there being 103 in seven open classes, and five in the local one. Lops, all worthy of notice. First and special, a Sooty Fawn doe, fully developed and full of quality; second

of that colour good in all respects, but not so large or good in dewlap; and third a Black doe, large and grand in all points. Many others coming close to the last two in quality and measurement. Dutch a grand class. First a most perfect Black-and-white; second a Silver Fawn, no doubt the Northampton winner, and without a single point in which trimming could improve it; and third a Grey, also nearly correct. Very many others good in all points but noses, which were very uneven in many specimens. All the winners very good in blaze. Himalayans not so good as we expected to find them, though the winners were pretty correct. Silver-Greys were a very even class, but here there is a tendency to mealiness, no doubt consequent on the great inclination to produce Silver Creams, which we always found conducive to that defect, the only ones at all sharp in silvering being the winners. Belgian Hares were good, in grand colour, but short of ticking and lacing on the ear. In the Variety class the Silver Creams were reversed from the Northampton position on account of condition, the third being a good Angora. The first in the Selling class was a young Silver Cream, which must make a good one; second a Black-and-white Dutch; and third, Himalayan.

There were some good well-shown *Cats*, especially of the Short-haired variety.

PIGEONS.—POUTERS.—Cock or Hen.—1, T. W. Swallow. 2, A. P. Byford. 3, S. Baker. *vhc.* W. Nottage. **CARRIERS.—Cock or Hen.**—1 and Special, H. Yardley. 2, T. & A. Stretch. 3, T. Wheeler. *vhc.* J. Chandler. *FANTAILS.—Cock or Hen.*—1, H. Yardley. 2 and 3, Capt. P. Rayner. **TUMBLERS.—Cock or Hen.—1, 2, and 3, H. Yardley. *vhc.* W. Nottage. *G. Webster.* **OWLS.—Cock or Hen.—1, J. Barnes. 2, T. Chambers. 3, T. H. & A. Stretch. *vhc.* A. J. Barnes. **TURBITS.—Cock or Hen.—1, R. Woods. 2, W. Daniels. 3, G. Webster. **JACOBINS.—Cock or Hen.—1, W. Nottage. 2, T. W. Swallow. 3, H. Yardley. *vhc.* J. Kirby. **DRAGONS.—Cock or Hen.—1, Special, and 3, R. Woods. 2, J. Allen. *vhc.* W. Woods. **ANTWERPS.—Cock or Hen.—1, T. Wilson. 2, J. Chandler. 3, Kendrick. *vhc.* C. F. Herrieff. **ANY OTHER VARIETY.—Cock or Hen.—1 and 3, H. Yardley. 2, R. Woods. **SELLING CLASS.—Cock or Hen.—1, W. Nottage. 2, W. Woolley. *un.* 3, J. Chandler. **LOCAL CLASS.—Cock or Hen.—1, Special, and 2, W. Daniels. 3, G. Loverock. *Special.* S. Bromwich.******************

RABBITS.—LOP-EAR.—Buck or Doe.—1 and Special, J. Cranch. 2, C. E. Thompson. 3, W. J. Coley. *vhc.* E. Toms. *J. Holt.* *T. S. Barrows.* *W. J. Coley.* *T. C. B. Gilbert.* 3, S. Taylor. *vhc.* Rev. T. C. Beasley. **SELLING CLASS.—Buck or Doe.—1, Rev. T. C. Beasley. 2, J. Fould. 3, R. Newsom. *vhc.* Rev. T. C. Beasley. *S. Taylor.* *B. Robinson.* **LOCAL CLASS.—Common.—Buck or Doe.—1 and Special, A. G. Price. 2, F. Fryer. 3, W. Saunders.****

CATS.—SHORT-HAIR.—Male or Female.—1 and Special, F. Wright. 2, Mrs. Salmon. 3, H. Aldwinkle. *vhc.* C. Anderson. **LONG-HAIR.—Male or Female.**—1, Hill. 2, Mrs. Cary. **LOCAL CLASS.**—1, W. Saunders. 2, G. Tyrell. 3, E. Knight.

JUDGE.—Mr. E. Hutton, Pudsey, Leeds.

APIARIAN NOTES.

1, I AM sorry to have misunderstood Mr. Hunter's description of the "Root" sectional super, but I think it was not unnatural. Certainly he will not say it was wilful. He has kindly sent me a specimen of one of the sectionals. It is very neatly made, and can be put together in a minute, but it is even smaller than those advocated and sold by Abbott Brothers. Time alone will decide which are the most useful, those or a larger type, as they come into more frequent use.

2, "O. B." seems to think he has made a discovery in finding that "bees remove honey." But who doubted it, or has denied it? What Mr. Pettigrew asserts but has not proved to the satisfaction of his sceptical friends, is that bees "make" honey, gorging and disgorging themselves, and again regorging and disgorging by a double process. That is a very different thing.

3, Since the 25th May matters have considerably improved in my own apiary. Honey is now seen in some hives, even in supers, but still not in any great quantity. Certainly, I never recollect so little honey stored by the 21st of June. Our only chance now lies with the white clover. If that supply fails, this year will be as disastrous as any I can recollect since I began to keep bees in Somersetshire nineteen years ago.

4, I see that return swarms are not uncommon this year. Three instances of such have occurred to myself—one first swarm, and two very strong casts. One of your correspondents has had a like experience.

5, A curious instance of piping several days after swarming has occurred to me quite recently. I should like to know if such experience is common. A cast which swarmed on the 18th of June (a very large one), was distinctly observed to have a piping queen so late as the 23rd. It had been heard on the 21st. This proves conclusively that piping does not proceed only from imprisoned princesses, as used to be stated. The first swarm out of the parent stock somehow lost its queen in the act of swarming. This was one of the swarms that returned home. But only a portion of the swarm so returned; a considerable number of the bees (several thousands, in fact) entered an adjoining hive, which had swarmed some days previously. My belief is, that the queen entered this hive by mistake, and must have been killed, because both the hives were piping some days after, and both sent out casts with young queens. I should state that the

cast above mentioned also returned to the parent hive. I therefore drove out the whole population the same day, thus compelling them to swarm. To make sure that they had a queen, and to diminish risk of failure, I cut out a piece of comb and gave them a royal cell in a super, out of which there issued a queen some hours later in the day. This may explain the piping. Probably both princesses lived together for several days and were aware of each other's existence.—B. & W.

THE UTILISATION OF CONDEMNED STOCKS.

MR. PETTIGREW in his very able article of June 21st, in which he shows how the swarming system with fixed combs may be carried to the highest perfection, makes the following statement:—"If the best of the three hives be selected for a stock, and have the bees of the other two united to it, we obtain for another year a stock hive of surpassing worth and power." This, no doubt, is correct if it be done in the autumn when most of the added bees would survive to the following spring. But is it correct if the bees be driven and added the end of July? Our honey harvest in these parts, as in many others, ends about the 18th of July, which would consequently be the proper time to drive condemned stocks. Would it be any good to unite these to other stocks with a view to strengthening them for the following season? If not, would it be worth while to defer taking the honey of condemned stocks two months later, say the first week in October? Would the strength given to the hives to which they were added compensate for the loss of the honey they would consume during those two months?

This is a very important question, and one on which I should like to have the opinion of others as well as Mr. Pettigrew. Condemned bees in July would, no doubt, answer admirably for building up into stocks by sugar-feeding; but the question is the value of uniting them to other stocks.—O. B.

BEE MANAGEMENT—DRIVING.

For the encouragement of beginners like myself in bee-management I beg to give you an account of my first attempt at "advanced" bee-keeping. I bought in March this year two stocks for £1 and 12s.; the former weighing 32 lbs. hive and board, and the latter 36 lbs. They were both in old straw skeps, small and rotten. On the 25th of May I took an artificial swarm of 4 lbs. of bees from the 12s. hive, and put it into a straw hive 14 by 12. I fed them for a few days, and now (June 25th) the hive is three parts full of comb, and I can see young bees coming out. On the 12th of June, and for two days previous, I heard distinctly three queens piping in the old hive, so I determined to turn a second swarm out. This I did into a common hive, shook them into a 14-inch hive, and then put a ten-bar frame hive on it. Inverted guide comb was fixed to each frame, and after putting a cloth round and drumming awhile I left them all night, but not before I heard princess No. 1 piping in the frame hive; and on going to listen to the old stock I heard that princess No. 2 had been liberated, and that piping was being carried on by two only. Next morning I found the bees had gone into the frame hive, and now nearly all the frames are filled with comb. The bees that were left in the stock remained a few days longer, when I drummed them out, caught the queen, and divided the remainder amongst my other hives.

The other stock hive (cost £1) I tried to swarm artificially on the 26th of May, but the bees all went back; so I tried again on the 31st of May and succeeded, getting a capital swarm, which has more than three-parts filled a 14-by-12 hive. The stock remained for twenty days, and then I turned it out into a similar hive, and now it is working well. So that out of my two stocks I have four good hives in a forward state, and not a bit of old comb. Being near the heather, I shall if all is well get a fair harvest of honey, though I do not intend putting down either of my stocks this autumn, as I want to keep four at least over the winter, and shall content myself with supers and side combs for my honey this season.

My artificial swarming was laughed at by all the bee-cages, but now they see that I am ahead of them they are beginning to see that there is something in it. If my experience should encourage any timid ones I shall be glad. I may say that though I do not use a bee-dress of any description I have not been stung in any "driving" operation, having driven several others besides my own.—R. G., Kendal.

OUR LETTER BOX.

BEES CLUSTERED ON FOOT-BOARD (*J. Smith*).—Bees should not be allowed to hang in clusters for weeks outside their hives, as it is a waste of time. We advise you to swarm them artificially, or give them room by enlarging their hive. Artificial swarming has been often described in our Journal. If you try the artificial mode you will find it is very simple and satisfactory. Blow some smoke from fastian rags into your hive, lift it from its board, and place it on the ground, bottom up; place your swarm hive on it, roll a cloth round the junction of the hives, drum on the bottom (full

hive for four minutes, then place both hives on separate boards some feet or yards on either side of the old stand. This is artificial swarming, and it is a most useful and valuable invention. We are about to swarm some hives in the same way.

MAKING STRAW HIVES (*Novice*).—By examining a straw hive you may learn how they are made. A young gardener in this neighbourhood was anxious to learn how to make them. He took a hive and undid the stitching, bit by bit, from bottom to top. He needed no more teaching, both he and his father became experts in building excellent straw hives. Hives are made of straw stitched with cane or bramble briars. A tube about 5 or 6 inches long and 1 inch wide is used to keep the straw in rolls. The tube is kept full of straight straw by feeding it at one end, and the stitching takes place at the other end. No handy man can fail in making good straw hives after the first trial.

BEES SELF-WILLED—THE SWARM-CATCHER (*Novice*).—When bees swarm naturally they choose a spot beforehand and go there. If they resolve to alight in your neighbour's garden nothing can be done to prevent them, except the adoption of artificial swarming. The American swarm-catcher is used to prevent two swarms coming off at the same time from going together or becoming one. This swarm-catcher is a kind of square sack of thin material, and is placed around the mouth of the hive when the bees begin swarming. They rush pell mell into the sack, and may be hived at convenience; but the mode of artificial swarming which we follow is far better, and can be done with less trouble than the use of the swarm-catcher.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.				
	Barom. and State of Sky.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at feet.	Shade Tem- perature.		Radiation Temperature.		Rain.
		Dry.	Wet.			Max.	Min.	In sun.	On grass.	
1877.										
June										
July.										
We. 27	30.073	59.7	57.4	N.W.	62.8	72.4	54.9	122.1	51.2	—
Th. 28	30.253	66.0	56.2	N.W.	62.9	78.9	48.4	125.0	41.8	—
Fri. 29	30.246	70.2	59.6	W.	65.0	84.6	56.3	128.6	52.6	—
Sat. 30	30.199	63.3	58.2	S.W.	61.2	85.3	58.2	131.0	51.0	—
Sun. 1	31.029	60.0	58.4	N.W.	61.8	63.5	60.0	90.2	60.0	0.543
Mo. 2	29.999	65.3	58.7	N.W.	63.1	74.4	51.8	120.0	49.0	—
Tu. 3	30.015	63.7	57.0	W.	62.6	71.8	49.6	123.4	47.3	0.638
Means	30.116	64.9	58.6		61.3	75.1	53.8	120.0	50.4	0.931

REMARKS.

27th.—Rain in the morning, sunshine after 9.15 A.M., rest of the day fine and bright.

28th.—Fine all day, and much warmer.

29th.—Another fine summer day, much hotter than the day before it.

30th.—Clear bright morning, cloudy at times in the afternoon, a sprinkle of rain in the evening.

1st.—Dull early, rain began at 9 A.M. and fell heavily for some time; after-part of the day very fine and rather less hot.

2nd.—Rather dull, but pleasant from there being a nice breeze, rendering it quite cool at night.

3rd.—Wind rather fresh and pleasant in morning, a few drops of rain about noon; thunder about 4 P.M., and again frequent with lightning between 5 and 6, with a heavy but short shower; very bright and sunny by 6.30, and rain again at 7.30, and tremendous hailstorm from 8.4 to 8.7 P.M., the stones nearly spherical, crystalline, averaging a quarter of an inch in diameter, but some were over three-quarters of an inch in diameter. Leaves very much cut, bedding plants quite disfigured.

No special feature calling for notice except the above-mentioned hailstorm.—G. J. SYMONS.

COVENT GARDEN MARKET.—JULY 4.

TRADE remains quiet at last week's quotations.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples.....	½ sieve	0 0 to 0 0	Melons.....	each	8 0 to 8 0
Apricots.....	dozen	1 6 3 0	Nectarines ..	dozen	12 0 30 0
Cherries.....	lb.	1 0 8 0	Oranges.....	dozen	10 0 16 0
Chestnuts.....	bushel	0 0 0 0	Peaches.....	dozen	8 0 80 0
Currants.....	½ sieve	0 0 0 0	Pears, kitchen.	dozen	0 0 0 0
Black.....	½ sieve	0 0 0 0	dessert.....	dozen	0 0 0 0
Figs.....	bushel	6 0 18 0	Pine Apples ..	lb.	2 0 5 0
Filberts.....	lb.	0 0 0 0	Plums.....	½ sieve	0 0 0 0
Gobs.....	lb.	1 0 1 6	Raspberries ..	lb.	0 0 0 0
Gooseberries ..	½ bushel	3 6 4 6	Strawberries ..	lb.	0 6 2 0
Grapes hothouse	lb.	2 0 10 0	Walnuts.....	bushel	5 0 8 0
Lemons.....	£ 100	6 0 10 0	ditto.....	£ 100	0 0 0 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes.....	dozen	3 0 to 6 0	Mustard & Cress	punnet	0 2 to 0 4
Asparagus.....	£ 100	8 0 6 0	Onions.....	bushel	0 0 0 0
Beans, Kidney..	£ 100	1 0 2 0	pickling.....	quart	0 4 0 6
Beet Red.....	dozen	1 6 3 0	Parsley.... doz.	bunches	2 0 0 0
Broccoli.....	bunch	0 9 1 6	Parsnips.....	dozen	0 0 0 0
Cabbage.....	dozen	1 0 0 0	Peas.....	quart	2 6 4 0
Carrots.....	bunch	0 6 0 0	Potatoes.....	bushel	2 6 4 6
Cauliflowers....	bunch	1 0 2 0	Kidney.....	bushel	3 0 5 0
Capsicums.....	£ 100	1 6 2 0	New.....	lb.	0 2 0 6
Cauliflowers....	dozen	2 0 4 0	Radi-hes.... doz.	bunches	1 0 1 6
Celery.....	bundle	1 6 2 0	Rhubarb.....	bundle	0 6 1 0
Coleworts doz.	bunches	2 0 4 0	Salsify.....	bundle	0 9 1 0
Cucumbers.....	each	0 6 1 6	Scorzonera ..	bundle	1 0 0 0
Endive.....	dozen	1 0 2 0	Seakale.....	basket	0 0 0 0
Fennel.....	bunch	0 8 0 0	Shallots.....	lb.	0 8 0 6
Garlic.....	lb.	0 6 0 0	Spinach.....	bushel	2 6 4 0
Herbs.....	bunch	0 2 0 0	Turnips.....	bunch	0 0 0 0
Lettuce.....	dozen	1 0 2 0	new.....	bunch	0 9 2 0
Leeks.....	bunch	0 4 0 0	Veg. Marrows ..	each	0 0 0 0
Mushrooms....	pottle	1 6 2 0			

WEEKLY CALENDAR.

Day of Month Week.		JULY 12—18, 1877.			Average Temperature near London.		Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
Day	Month				Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.
12	TH	Newcastle and Kilsby Shows.			75.9	50.5	63.2	3 59	8 12	5 38	9 26	2	5 21 193
13	F	Helensburgh (Roses) Show.			76.1	51.4	63.7	4 0	8 11	7 12	9 43	3	5 28 194
14	S				74.5	50.5	62.5	4 1	8 10	8 42	9 57	4	5 35 195
15	SUN	7 SUNDAY AFTER TRINITY. ST. SWITHEN.			76.6	50.7	63.7	4 2	8 9	10 9	10 10	5	5 41 196
16	M	[mittees at 11 A.M. Newton Stewart (Roses) Show.			76.0	50.1	63.0	4 4	8 8	11 33	10 23	6	5 47 197
17	TU	Royal Horticultural Society—Fruit and Floral Com-			74.3	51.3	62.8	4 5	8 7	9 56	10 37	7	5 52 198
18	W	National Carnation and Picotee Show.			74.7	50.2	62.5	4 6	8 6	2 19	10 55	8	5 57 199

From observations taken near London during forty-three years, the average day temperature of the week is 75.3°; and its night temperature 50.6°.

ROSES AS CLIMBERS UNDER GLASS.

UNDER favourable circumstances Roses can be equally as well grown for a time in the open air as under glass; but everyone who has grown a Rose out of doors knows with regret how short a time the blooms remain perfect, and in many instances they never reach that state, as a day's strong wind or a few hours' heavy rain frequently destroys the hopes of would-be exhibitors, and many a Rose-grower has taken refuge in the wind and rain as an excuse for not "getting a place" in the prize list. Roses under glass have none of these adversities to contend with; they open without spot or blemish, and nothing whatever need mar their beauty from first to last.

It is not, however, at the height of the Rose season out of doors, such as the present time, that indoor climbing Roses could be placed advantageously against those out of doors. But there is a time when outdoor Roses are no more ornamental than the bare stakes or walls that support them, when climbing Roses under glass appear in all their glory. In February, March, and April every greenhouse or conservatory may be rendered beautiful to look at and delightful in fragrance by a few climbing Roses. Roses are valued at all times according to their abundance and time of blooming, but if there is one time more than another at which they are justly esteemed it is in the early spring months.

The proper places for Roses under glass are up the rafters, around pillars, and against dead walls, and any other convenient position excepting the entire roof of the house. This affords shade for the plants in summer, but it is unhealthy for them in the spring. I have never seen any Rose shown to greater advantage than when trained right across the rafters in a large house and the branches all bent downwards, with crowds of newly-formed buds, half-opened blooms, and fully-expanded flowers; no other plant is capable of making a display to equal this in loveliness. Hybrid Perpetual Roses are often used as climbers out of doors. I cannot remember seeing them do well under glass. The Roses best adapted for climbing indoors are the Bourbons, Tea-scented, and the Noisettes. Before speaking of varieties, however, I had better start at the beginning of their culture, and let less important matters follow.

To grow Roses to perfection as climbers under glass it is not necessary to have a well-heated house; on the contrary, they thrive excellently in houses where all the heat comes from a brick flue, and this barely sufficient to keep the temperature above the freezing point when there is 10° or 12° of frost. This is a matter worth remembering; and having settled that they will grow luxuriantly in any temperature between 30° and 50°, the roots must next be provided for. It requires some care to establish climbing Roses, but once this is accomplished they will stand like forest trees; and it is worth observing that after this they seldom or never die-off, and when not

restricted the stems often grow to an immense thickness and the branches cover a large space.

No great success will attend growing climbing Roses in pots under glass, but they will do well in large boxes where they cannot be planted in a border or bed. Much the best way of growing them, however, is by planting them out; their roots need not be under glass, for, like Vines, they do well in outside borders, the stems being taken inside through holes in the wall. Each Rose should have space at least 3 feet square and deep, filled with good soil to grow in, and if more than this can be given so much the better. When the ground is not naturally porous 6 inches of broken stones must be placed in before the soil, which may consist of loam and decayed cow dung. When the plants have been in pots previously they may be turned into this at any time of the year; but it is hardly worth while to remove a large tree from the open air under glass with the hopes of having any desired space quickly covered. It is very much the best to begin with small plants with a few shoots about a foot long. It is perfectly surprising the progress these little plants make in a short time. A sprig of *Maréchal Niel* that was planted three or four months ago had one or two small growths about the length of your finger, and it has now strong thick shoots 7 and 8 feet long. During the growing season they require abundance of water, also liquid manure. This remark applies from the time they are planted until the end of their existence.

As to training, it must entirely be regulated by the space there is to cover. In one case it may be desirable to take up one or two stems a long distance, in another instance a crowd of them may be wanted not far from the root; but this much may be said which applies in all cases—never overcrowd the shoots.

Mildew sometimes attack Roses under glass: sulphuring the leaves is a sure cure for this pest. Green fly is the more troublesome. Small houses may be fumigated, but in large houses where there is nothing else wants cleaning it will not pay to do this; and then a never-failing remedy is to dust the affected parts with tobacco powder and let it remain on the leaves for a day or two.

I never saw climbing Roses benefited by being pruned hard or too closely in; it robs them of their gracefulness and chance of blooming profusely. The shoots may be thinned-out or cut-back whenever they are getting out of bounds. There is another object for which climbing Roses may be introduced under glass. Many have to grow Roses simply to supply cut flowers; they do not then need to be trained in a select place in the conservatory, but be planted in any out-of-the-way houses where there is room for them.

Respecting varieties best adapted for the work, I do not think there ever will be a Rose raised to equal, far less surpass, *Maréchal Niel*. In depreciation of a sameness in an old-fashioned flower garden Pope says—

"Grove nods to grove; each alley has its brother;
One half the garden just reflects the other;"

but I do not think any person would ever have cause to

complain of the *Maréchal* being "same," although both sides of two or three span-roofed houses might be covered with it on the roof. I have known some people to have had thousands of blooms of it out at the same time, but I never yet heard a word about there being too many. It is asserted that it does not do well or live long on the *Manetti* stock. I know it does capably on its own roots.

Other good *Roses* in the same class for climbing indoors are *Céline Forestier*, canary yellow, fine form; *Madame Caroline Kuster*, light lemon; *Jaune Desprez*, pink; *Aimée Vibert*, pure white; *Cloth of Gold* is an effective name, but that, as a rule, is the best of it. When used in a cut state all these *Roses* should be cut by the time they are half open. Another *Rose* worthy of a place next the *Maréchal* is *Gloire de Dijon*. It grows and blooms freely, and its buff-orange flowers are of great substance. This is a Tea-scented *Rose*; and amongst these there are some lovely *Roses* for climbing, I will only name a few. *Clotilde*, white and pink; *Madame Falcot*, rich orange; *Perle de Lyon*, nearly as good in colour as *Maréchal Niel*, but not so free in growth; *Marie Van Houtte*, white; *Madame Margottin*, beautiful yellow and pink; *Devoniensis* is superb in the bud, but the blooms are not produced freely enough to warrant its being recommended.

Those who have climbing *Roses* under glass should now keep them clean and train the shoots thinly; for it is by good attention given at this period of the year that blooms—some gorgeous, some lovely—are eventually produced.—J. MUIR.

WATER.

THE gardener who hath a full supply of water and ample means for its distribution among his parched crops in this hot weather is a man in the enjoyment of great privileges; let him be thankful and murmur not because he lacketh other things which are as trifles in comparison. Do you not agree with me, brother blue-aprons? and is not the very sight of my title refreshing in this droughty time, to say nothing of the copious supply of the precious fluid itself, which I most heartily wish was at the disposal of every one of you? for I am well aware from dearly-bought experience how badly many gardens are supplied with water; and it is with an earnest wish to assist those who may be now having to contend with the difficulties arising from such an unsatisfactory state that I now refer to the subject.

To promote that free, strong, succulent growth in vegetables which is so desirable it is necessary that the soil be moist as well as rich—a condition of things which it is often difficult to maintain during a period of drought, moisture then escaping from the soil by evaporation with such rapidity that a crop may be spoilt, if not lost outright, through a few days' inattention to what is going on, and neglect in the prompt application of the most simple remedy of all—plenty of water. There is, however, something very unsatisfactory in this constant pouring-on of water—this daily contest with the drought, the surface of the soil becoming so washed and hardened that soon the water will not enter freely until the soil has been broken up or stirred with hoes. To meet this difficulty and in a great measure overcome it, the first good drenching with water should be followed immediately by a surface-dressing of rough leaf soil, old hotbed or any half-decayed manure, which tends so materially to check evaporation, that a weekly, or even a fortnightly, watering does more good than the daily one without surface-dressing, for the palpable reason that no hitch occurs in the food supply of the crop, the moisture-laden soil promoting that steady process of decay in the manures stored up in it, and the absorption of the fertilising gases, which are thus constantly permeating the soil: hence arises a free strong growth and a full and perfect development of tuber, root, fruit, flower, or seed—whatever property for which each crop is cultivated for is obtained; the truest economy of time and labour exemplified, and, best of all, the glorious summer weather is turned to full account instead of being wasted or suffered to destroy those crops to which it is so truly beneficial when supplemented by skilful and timely culture.

However carefully and well water may be applied a large quantity is quite certain to be wanted in every garden during summer; prompt measures should therefore be taken to remedy any deficiency in the supply. Storage must be resorted to if there is no such perennial source as a spring on a higher level than the garden, or a hydraulic ram throwing up water from a valley. A garden that is unprovided with some such means of combating the evils attendant upon a hot dry season may

fairly be termed quite behind the age, and in such instances it is certainly most unfair, to say the least, to expect either fruit, vegetables, or flowers in perfection.

No doubt there are hundreds of gardens having neither an elevated spring nor a stream in a valley near them, but I quite fail to see why any one of them should be without an abundant supply of rain water accumulated during autumn, winter, and spring in ponds or tanks—ponds being altogether preferable, as they are less expensive, and the water is fully exposed to sun and air. If I am asked how the ponds are to be filled, a variety of ways immediately present themselves to the mind. The house itself and every outbuilding should have shooting and gutters to convey the rainfall to drains, such drains being carried under walks having gratings and connections at the sides. Then, too, the very land itself may be drained and the main drains made to empty into a pond. And remember that pond-making is not an expensive affair, even when done upon a dead level; for by turning the soil which we excavate to account for raising the sides the required depth is soon reached, the most expensive part of the business being the puddling, which it is usually necessary to do in order to prevent waste from soakage through the sides and bottom.

To raise the water thus accumulated to a higher level a force-pump will be necessary. I have used a cheap and simple form of pump for sewage very successfully for the last three years, and hope soon to give a sketch of its fittings; but I may now say that with it one man can with two strokes draw up the sewage from a depth of 10 feet and force it through some 200 feet of piping to an elevation of 25 feet, and as the specific gravity of sewage must be considerably greater than that of clear water a similar apparatus could of course be used for the latter. When such a pump is used let it always be placed immediately over a cistern or close by the pond, so as to force the water through the greater length of piping, and to draw it through such a short length only as is necessary to reach nearly to the pond bottom.—EDWARD LUCKHURST.

THE DEGENERATION OF ROSES.

THE question as to the degeneration of *Roses* is one that requires much consideration before you can come to any definite conclusion about it, and most people have been too busy lately in their gardens to spare time for the contemplative part of horticulture. In the first place, is it admitted as a fact that the *Roses* mentioned have degenerated? If they have, it might be possible to account for it in other ways than those suggested by your able correspondent "*HEREFORDSHIRE INCUMBENT*." Many of them are grown in small holes at the edges of lawns, which never suits them well (if *Roses* are wanted at the edges of lawns there ought to be a narrow continuous bed of earth), and others are perhaps over-stimulated in their earlier years. In either case the buds propagated would be liable to degenerate. With regard to *Géant des Batailles*, I think it has been surpassed by the newer varieties. I have looked over Mr. Darwin's interesting remarks on bud variation in his "*Plants and Animals under Domestication*," but have not been able to find any allusion to the propagation of the *Rose* by budding on the *Briar* stock as a cause of degeneration. It may be in some other work. He says a great deal about the necessity of changing seed and procuring plants from other places to prevent their degenerating, and I have experienced the same thing with regard to *Strawberries* propagated from runners. I can quite understand the *Rose* suffering if propagated for a long time from buds grown in the same garden, particularly if not a suitable soil; but if grown with proper care and a change of buds procured occasionally I think there is a very long lease of life before most of our favourites. I think the propagation of *Roses* by budding is not a parallel case to the propagation of plants by self-fertilisation; in the former case you have a continual change of stock, and as the bud grows it is merely an extension of a former growth. It may be influenced for good or evil by the previous stocks by means of which its life has been extended, but most likely not in the same way as a self-fertilised plant. Some of our Apples have been propagated by grafts for hundreds of years, and are as good as ever they were. It is true Knight thought there was a limit to their duration, and that some of them had nearly reached that limit; but other authorities, amongst whom I believe was Mr. Rivers, had doubts on the subject, and seemed to think their career might be almost indefinitely prolonged, and I am rather inclined to take that view of the *Rose*.

In looking through Mr. Darwin's book before mentioned two or three years ago a valuable idea occurred to me with regard to budding the Rose. I have frequently been annoyed in looking over the Rose trees to find some that throw up a lot of blooms crowded together almost as bad as the hen-and-chickens Daisy, and Madame Boll was a great offender in that way. Sometimes you could scarcely find a single Rose to gather. "Why not cut them off?" suggested a friend, but I could never make up my mind which buds to cut off; so they all remained, and sometimes were so crowded together that they never could bloom properly. There was occasionally a shoot with a single bloom, and the idea occurred to me that if buds were taken from that shoot and propagated the evil would be remedied; instead of which, by cutting off the single blooms and leaving only the other shoots to bud from, the objectionable features were extended by a species of non-natural selection and the survival of the least fit. I have had a few Roses budded in the way suggested, and there certainly is an improvement in the right direction, but I have not gone far enough yet to warrant it as a cure, and intended to continue the experiment this year and let you know the result in the Journal; but as it would be two years longer before I could say much about the result I give your readers the benefit of the idea now, and hope it will prove of service to them.—AMATEUR, Cirencester.

FORCING VIOLETS.

VIOLETS do not force well, for they delight in coolness, moisture, and air. Any approach to a close atmosphere or a high and dry temperature is fatal. In a house, however, kept at a moderate temperature, the plants will, if placed near the glass and well ventilated, afford a quantity of their fragrant flowers with certainty in winter and spring. To have Violets during those seasons preparations must begin early, and that is why I allude to the subject now. In growing Violets in pots there is more than one way of doing it. We may pot the rooted runners or suckers in early summer, be at much trouble in watering them and taking off runners, and after all have a harvest of leaves only; or we may pot in late summer plants with poor crowns, having suffered from drought and its concomitant red spider, and also fail; and we may introduce plants with the best of crowns to a warm and close atmosphere and fail again. My failures in growing Violets in pots were formerly signal, but now my efforts are successful. Bunches of flowers were at command from cold pits from October to April inclusive. Very welcome are bunches of Violets, but some like to see the flowers upon the plants, and the plants grown in pots. What more acceptable than a stand having a panful of Lily of the Valley in the centre, and blue sweet Violets surrounding? Well-bloomed plants of Violets in pots are always appreciated, and to obtain them is one of the simplest practices in horticulture.

Violets in pots are grown in two ways—namely, as single specimens and in masses. Single specimens are had by planting even now rooted runners or suckers in an open situation, watering copiously in dry weather, and keeping free of weeds and runners. In September we lift the plants carefully and pot in 7-inch pots, though 8-inch pots are not too large for well-developed crowns. The pots must be efficiently drained with one flat crock and about an inch depth of charcoal. Sound loam one-half, a quarter of old cow dung, and a quarter of leaf soil well mixed together forms a good compost. It is no use huddling the roots into a heap in the centre of the pot and cramming the soil around them, but work it in among the roots and make moderately firm. Give a good watering, and place on ashes in a cold frame. Shade from bright sun, and keep rather close for a week or ten days, and then admit air freely day and night except in frosty weather. Remove the old leaves as they turn yellow, and any time after the middle of October the plants may be moved to a shelf in a light house, and if air be passing over them they will flower freely. The temperature must not exceed 50° by day from fire heat. Any cool house from which frost is excluded will answer admirably, air being plentifully admitted in mild weather. The plants will require to be kept well supplied with water and liquid manure. The best that can be given is soot water, one peck to thirty gallons of water, which may be given at every alternate watering. Soot water is not only a valuable stimulant for the plants, but is a preventive of red spider.

Such kinds as Czar and Victoria Regina will require 7 or 8-inch pots, but small growers such as Queen will do in 6-inch,

whilst Neapolitan and its vars. New York, Marie Louise, &c., will do well in 5-inch pots, and the Double Russian and its vars. King and Double Red (*Viola suavis rubra flore-pleno*), one of the best for pots, will succeed in 4 or 5-inch pots. The very finest of all the singles is Victoria Regina. I make mention of those only in commerce, for it is surpassed by Prince Consort, and if a white single companion be wanted there is none equal to White Czar. These are the earliest, commencing blooming with certainty in October; and a double to come in at the same time is New York with the true Neapolitan. All the others will not flower until after Christmas, but they may be had somewhat earlier by forwarding them in the gentle temperature above named. It is well, however, to keep them in frames until well advanced for flowering. They should be kept in the frames until drafted into the house for flowering. I may mention Blandiana as a fine double Violet and a continuous bloomer, also Devoniansis, blue, single variety, very sweet.

The next mode of growing Violets in pots may be an old practice. I gained the hint from some pots received from Paris. The pots were crammed with crowns not more than an inch apart, and the condition of their roots lead to the conclusion that they had only recently been "done up." They were, in fact, neither more nor less than rooted runners, such as Mr. Lee told us in this Journal how to manage in order to raise-up a stock and bring-out their floriferous character. Now, instead of cutting-off the runners as advised for specimens, permit them to grow until they commence forming a crown at their extremity, then take out a little soil and lay the wire for 2 or 3 inches of its length next the crown, leaving that or the extremity of the runner above ground, and secure with a peg. The runners are left on the parents until the middle of September, when they are carefully taken up and potted. Place the rooted runners an inch apart all around the inside of the rim of the pot, and then fill-in the centre, working the soil well among the roots, all crowns being placed on a level and just above the soil. A 6-inch pot will not hold more than a dozen crowns of such kinds as Victoria Regina, whilst it will accommodate two dozen of Neapolitan vars. and *V. suavis* vars. They must not be potted "hard;" the right mode is to fill-up the interstices just close—no more, for we want the roots to run and to allow water to percolate freely through the mass. If placed in a frame, and kept close and shaded from sun for a week or ten days, they will soon be established. If the weather be moist it answers to place the pots on ashes at the north side of a low wall or fence for about a fortnight, but they are best in a frame. When rightly managed nothing can exceed these masses in the freshness of their foliage with the flowers peering above it, or the buds peeping from it in modest beauty. The one great point to be aimed at is not to allow the crowns before potting to be crowded, they want air and light. They must also be kept free from red spider; the foundation of having Violets in spring is giving good attention to the plants in summer—now.—G. ABBEY.

THE AIR-TIGHT VINERY.

THIS vinery was invented to supersede the ground vinery, with which I was never satisfied. It is pleasanter to walk through an avenue of Vines than to look upon them on the ground; besides, it is easier to prune the Vines and thin the bunches. There is no fear of mildew, and the economy of surface considerably greater; but the most important thing of all is that the Grapes are thoroughly ripened early in the season, and the building constructed at half the expense. My vinery has been built about eight years. It is a regular sun trap, the temperature on hot days being often over 100°. The principle is not to let in any external air; once a-day the path and borders are watered. A leaf is never scorched.—OBSERVER.

RICHARDIA ÆTHIOPICA.

I HAVE had the *Richardia* growing and flowering most freely for more than ten years in a small cemented tank about 8 feet in diameter in my garden. When I first made the tank I placed a depth of 1 foot of common garden earth at the bottom, planted in it a small clump of *Richardia*, and filled the pond to the depth of 2 feet of water above the earth. The next year I was given a large clump of *Richardia* which had been growing in a border and not flowering well. This clump I divided into two, and threw the pieces into the pond or tank. I have never

given them the least care. The tank is frozen over nearly every winter, sometimes for a fortnight at a time, but the *Richardias* have increased till they have nearly filled the tank, and at this present time I can count nearly forty blooms open, very large and fine in colour and shape. Last year and for many years I have had nearly the same number, and the seeds ripen and seedling plants are plentiful.—C. BEAUMONT, *Tenby*.

THE COMMERCIAL VALUE OF THE ROSE.

ONE of the most marvellous features in the history of the Rose is its commanding influence—the power it has of attracting to itself the notice of almost all classes in this country. As a result of this magnet-like influence which the Rose possesses and exerts, an industry of considerable, even surprising, magnitude has become established. It will not be exceeding the bounds of truth to say that no other flower commands the attention and exercises the powerfully attractive force that the Rose does, simply because no other flower possesses in combination the same qualities of variety, beauty, fragrance, and hardness.

The Rose is the floral emblem of this country. When and by whom it was installed in that prominent position I know not; but this I know, that it is worthy of the country, and I think also the country is worthy of the Rose. Its right as England's emblem is unquestioned, its position undisputed, and its qualities are admitted—in a word, it is the national flower and receives the nation's homage.

That this is so is evident by the extensive commerce in Roses, so extensive as to reach into almost every village and hamlet in the land, and which is spreading not only to other nations of Europe, but which has bridged the mighty Atlantic and gained a footing where it has a right to be, among England's sons on American soil. The export trade in Roses has long been great in France, and now a similar trade is great and growing greatly in England.

What is the inquiry that arises in the minds of visitors to the Rose-growing nurseries of England during the autumn months? Is it not, Whence do all the Briars come? whither do all the Roses go? This twin question is a very natural one, for no one can note the thousands, even hundreds of thousands, of Roses which are annually provided without some feeling of curiosity being evoked and inquiry expressed as to their probable destination. The trade in Roses in England is indeed a mighty trade; how great is not known. Examples of its magnitude might be quoted; approximate numbers of the Roses annually raised by the great Rose-growers—the specialists—might be given. This, however, would be obviously undesirable, especially as it is not necessary to do so. A sufficient instance of the extent to which Roses are grown is gathered from the practice of a firm who are not Rose specialists, and who yet annually bud sixty thousand Briars and as many *Manetti* stocks, and in addition purchase many more Roses to meet the demand of their customers. There are trade rosarians who prepare thrice that number of Roses, and not only prepare them but sell them. So great was the demand for Roses last autumn and winter that it was only by giving early orders that purchasers could secure what they wanted—good plants of particular varieties. One well-known nurseryman, conceiving himself overstocked last autumn, sold five thousand standards to a brother in the trade, and before the planting season was over the vendor had to purchase seven thousand at an enhanced price to execute the orders which steadily poured in. Another nurseryman, on being asked the question why he did not advertise his stock, gave as a reply that he dare not do so, as he had orders for one hundred thousand Roses on his books while the leaves were yet green on the trees. Those are instances which suggest something of the extent of the commercial value of Roses. The annual sale of Roses in England is to be counted not merely by thousands but by hundreds of thousands. There is little or no danger of exaggerating in stating that the aggregate number of Roses yearly propagated in England exceeds a million—that is, Roses propagated for sale. It is more likely that three millions are nearer the mark, since more than one grower has to be credited with five hundred thousand. There are also many thousands of plants imported annually from France. Thus the Rose trade is a great industry, wherein thousands of pounds are invested, in which hundreds of persons are employed, and to which a great extent of land is devoted.

The amount of capital invested in land alone for the cultivation of Roses would be startling by its magnitude were it

possible to ascertain the sum total. Land selected is of the best—the most valuable—land that is capable of growing food in the greatest quantity and of the best quality, but it pays better to grow Roses. Is there any stern utilitarian who thinks it is a mistake and a pity that land capable of producing wholesome indispensable food should be devoted to the production of a flower? Well, it is not a mistake. The land that grows the greatest amount of money is the most profitable to the nation, for money is condensed food—condensed everything that is requisite for a country's population. A considerable amount of money derived from the culture of Roses is expended in labour—in the employment of skilled workers and ordinary labourers. Whole families are thus directly supported by the Rose—families which are certainly numbered by hundreds and almost as certainly by thousands. It is the land occupied by Roses that grows the food for these thousands as surely as if the food were gathered by the consumers of it from the ground producing the Roses. We sometimes hear it said by those who have little or no perception of beauty, who possess no sentiment, but who live in a little matter-of-fact world of their own, circumscribed by the cold bare walls of prejudice, that there is "no good" in growing flowers and in establishing and promoting flower shows. Let the great and respectable portion of the community who derive their livelihood from the industry of flower-growing and its correlative flower-showing answer that question. The answer is convincing, and in itself unanswerable, that as there is "beauty in utility," so also there is utility in beauty. Thus flowers have a use, a matter-of-fact substantial use, and no one flower is more "useful"—the word is used advisedly—than the Rose.

The cultivation of the Rose is commendable apart from the utilitarian aspect of the question. Rose-growing affords congenial exercise for the educated and refined, and those who are in a lesser degree educated and refined enter a school from which they will learn much that is good when they enter the school of the Rose. It has been said that the songs of a nation exercise an influence equal to the nation's laws, and that the pleasures of a nation—the mode of recreation of a people—is only a degree less important than its industry. In that there is truth. The real character of a nation is better and more truthfully ascertained from the manner in which it plays than from the way in which it works. Work as such is in its nature arbitrary, compulsory; recreation is voluntary, natural. It is a hopeful sign, therefore, when the pleasures of a great portion of the community consist largely in the cultivation of flowers. An engagement—a voluntary and ardent engagement, in such a pursuit shows those who indulge in it in their true colours, and tells in a manner which cannot be mistaken of their peace-loving industrial character. The work of those whose recreation is pure and salutary becomes additionally cheerful, and cheerful work is profitable work. England on a memorable occasion was once referred to reproachfully as a "nation of shopkeepers," but it was the peaceful industrial shopkeepers who broke a tyrant's power and laid a war king low. A band of soldiers was once regarded as being feminine, their recreation was not of that coarser kind where the intellect plays but a minor part; but it was the "milk-and-water" contingent, the noble band of a noble leader—Havelock, who in the hour of England's need preserved the brightest jewel in our monarch's crown.

Let, then, the recreation of flower culture pursue its onward course, and let the industry of flowers—of the Rose as the national flower—increase and its shows flourish. Let all who can do so aid in this work, for the nature of it is good, and the results will be beneficial. Let Rose-growing as a trade—an industry—expand, for on its prosperity depends in a great measure the well-being and the domestic comfort of hundreds of humble workers who are engaged in it, and who are indebted to it for their daily bread. Let amateur growers of Roses increase, and Rose shows prosper. Why do those growers cultivate Roses? Because the occupation affords them pleasure—wholesome healthy pleasure—and the blooms add happiness to many happy homes, and gladden distant friends—it may be sufferers in some hospital ward. Why do such growers exhibit their Roses? Is it for gain? No. There can be no gain, no money gain, in travelling hundreds of miles by night and by day conveying their treasures to the exhibition tent or hall to win a chance honour. But there is a gain—a coveted, a cherished reward—of having afforded others the means of sharing the gratification of the growers in enjoying the magnificent blooms. Is not a pursuit so unselfish, so commendable, worthy of support? Are not Rose shows deserving of

success? Does not the industry of the Rose merit prosperity? Nine-tenths of the readers of the *Journal of Horticulture* will answer, "Yes;" and I know, for I have the best means of knowing, that the Editors give a similar and emphatic answer.

Rose shows have done much and are capable of doing more in increasing the industry of our national flower. An unity of effort and an organisation of strength are only required to achieve success. The National Rose Society affords the opportunity of much good being done in widening a source of pleasure and in increasing an important branch of trade. To what extent and in what manner the position may be improved depends on the support that is given to local societies and to the national head. Certainly the central Society is capable of giving a great impetus to Rose culture, and it ought to be placed in a position to provide two shows a-year, and to give at least two medals annually as prizes of honour to be won by members of affiliated societies. The intrinsic value might not be great, but the honour of winning the Society's medal could hardly fail to be appreciated, and the more perfect and extensive cultivation of the national flower would be thereby stimulated.—J. WRIGHT.

ASPASIA VARIEGATA.

THE name of *Aspasia* is derived from *Aspazomai*, I embrace, the labellum partly embracing the column of the flower.



Fig. 12.—*Aspasia variegata*.

It is a native of the tropical part of South America. Dr. Lindley received specimens of it for the first time from Mr. Joseph Knight of the King's Road in February, 1836, and subsequently from Mr. Bateman. The flowers are deliciously sweet in the morning.

Mr. B. S. Williams states in the last edition of the "Orchid-Grower's Manual," that *Aspasia lineata superba* bloomed with him last year, and he describes it as being very beautiful. The *Aspasias* are dwarf-growing Orchids of easy culture.

MOUTAN OR TREE PÆONY.

We are indebted to China for the Tree Pæony, from whence it was introduced in 1789. There are now many varieties of this commanding flower. Sometimes in the spring I have

known the young growth and flower buds killed by the frost, and to ensure good flowers they should have protection or a very sheltered situation. They have a grand effect against a wall, where they are easily protected by mats or branches of fir; but to have them in perfection they should be grown under glass. They may be either planted-out or kept in pots. They are termed hardy shrubs, but they are well adapted for indoor work, and with care and very gentle forcing they are useful for conservatory and other decoration in early spring. Among the best of these Pæonies are *Pæonia rosea semi-plena*, *P. Banksii*, *P. carnea plena*, *P. albida plena*, *P. globosa*, and *P. atropurpurea*. They thrive in good loam, peat, leaf soil, and grit. They require thorough drainage when in free growth with a good supply of water, and are all the better for weak liquid manure water. After flowering they should be plunged in ashes in a rather shaded place. They are increased by cuttings under glass, but I find the best mode of increasing them is by layering. They are great favourites with us, and are worthy of more extensive cultivation.—A. N.

THE WEST OF ENGLAND ROSE SHOW.

HEREFORD, JULY 6TH.

THE eleventh Exhibition of this popular and, comparatively with others, venerable Rose Show, offering for open competition nearly £200, was held at the above date in the Shire Hall of the ancient city of Hereford. The building, all exhibitors and visitors will allow, is exceedingly well adapted for the purpose both from the shape and size of its hall, the airiness and convenience of its corridor, side rooms, and vestibule, supplemented for the occasion by a tent for dressing, and last, but decidedly not least, for the glorious flood of light it becomingly sheds down upon the varied hues of the legion-named family of the queen of flowers. More than once, I may add, has "WYLD SAVAGE" affectionately alluded to this effect in the columns of "our Journal."

The number of exhibitors was not up to the standard of last year, when almost every available inch of space had to be utilised; nevertheless, the Exhibition was generally allowed to be of unusual excellence. Many first-rate judges, indeed, who were present expressed their admiration, and gave their opinion that—whether for form, smoothness or size, colour or freshness—they had never seen Roses surpassed, whether in the nursery-men's or amateurs' division. Doubtless the late warm thunderstorms had much to do in removing the charge of irregularity and a certain coarseness under which blooms have as a rule to a short time ago only too apparently laboured—a marked and unfortunately only too true characteristic of the season when late frosts and cold nights have unpropitiously heralded in the summer, leaving ill-conditioned results in mildewed and abortive buds, except in some exceptionally favoured districts ineradicable and permanent.

The most interesting feature of the Exhibition was the meeting of Mr. Baker of Exeter, the hero of a hundred fights and holder of countless cups, and the new favourite of Dame Fortune, Mr. Jowitt of Hereford, the Rose-garlanded victor of Wednesday's well-foughten field in St. James's Hall. Too much praise cannot be awarded to Mr. Baker, who richly deserves his *nom de plume* of "Hercules" for his prowess in retrieving his despoiled laurels against so powerful an adversary as Mr. Jowitt, meeting him as he did at home quarters on his own vantage ground, although it is only fair to add that stress of weather at a critical period militated doubtless against that gentleman's success, as safe-travelling his grand Roses is one of his many strong points and secrets of success.

In the open nurserymen's division, Class 1, seventy-two single trusses, in which £35 were offered for competition, and out of which Herefordshire nurserymen were excluded, Mr. Cant of Colchester, *mirabile dictu*, was the only competitor, but happily that Rose giant was a host in himself—equal to the occasion and worthy of his high reputation. Mr. Cant's exhibit, which was a feast of Roses indeed, contained marvellous blooms, among others almost equally good, of Horace Vernet; Reynolds Hole, not up to the mark generally (unlike its worthy prototype) this season; Triomphe de France, a large flat Rose, which, although strangely the premier seedling in its native country, has already outlived its early fame, though as a charmingly sweet and free-flowering variety it will be useful in the garden; Hippolyte Jamain; Tea Madame Hippolyte Jamain, a Rose not to be confounded with the good light Hybrid Perpetual of the same name, and like it seemingly a promising variety; Louise de Peyronny, Mrs. Baker, very charming indeed, and well deserving "WYLD SAVAGE's" encomiums.

In the open class, seventy-two distinct varieties; first prize Messrs. Cranston & Co. This was a very grand exhibit, and very hard it is to particularise. Attention may be called to Elie Morel; François Michelon, finely exhibited everywhere this season; Duke of Edinburgh; Sir Garnet Wolseley, a new Rose

raised by the exhibitor, well keeping up its reputation, and finely shown here and at the National; Mons. Etienne Levet, one of the most attractive and certain exhibition Roses catalogued; Marie Cointet, a Rose so good as a traveller and effective as to be indispensable to the exhibitor; Madame Lacharme, exhibited so lovely as to disarm those few wavering in allegiance; Mons. E. Y. Teas, one of the greatest acquisitions lately; Prince Camille de Rohan, superb both in size and depth of colour, but likely to be left in the background by La Rosière, a new dark Rose, equally rich and dark in colour, and of fine substance and better habit; and Général Jacqueminot, an old Rose that happily goes far to prove against the deteriorating theory, so grandly has it been shown this season.

Teas and Noisettes constituted a small but beautiful class. Again at Hereford, as at the "National," Mr. Cant was an easy winner. Especially lovely were Souvenir d'Elise, a perfect gem; President and Souvenir d'un Ami, choicest gifts of Nature assisted by art, to dream over and enjoy, if never to expect to grow them like the Colchester chief. This class, though smaller, was far superior in quality to the National.

Among the new Roses exhibited in a special class (H.P. La Rosière has been already mentioned) two only deserve special mention. H.P. Madame Prosper Langier, a well-shaped clear carmine Rose of good size, well shown by Messrs. Davison, and promises to be an acquisition; and H.P. Abel Carrière, a new Rose of fine dark colour and good shape, indifferently shown here, but useful if it improves in form, staged by Messrs. Curtis of Torquay.

In the amateurs' open division, thirty-six varieties, single blooms, winner to hold Messrs. Cranston & Co.'s £15 15s. challenge cup, first prize R. Baker, Esq. In Mr. Baker's faultless stand were the following superb blooms, the *crème de la crème* of Rose cultivation:—Camille Bernardin, an exquisite bloom; Marquise de Mortemart, exhibited as the fragile variety very rarely is both in single and treble classes, where, by-the-by, Messrs. Baker and Jowitt held the same relative positions. Xavier Olibo was exhibited in great substance and strong habit. How can this variety be called by an authority in the Journal as weak and dwarf? Charles Lefebvre was staged worthy of the variety; Marquise de Castellane, a perfect model of a fine smooth Rose; Lord Macaulay, a splendid specimen of this shy dwarf variety; and Monsieur Boncenne, of rare colour and substance—the best dark useful Rose. In Mr. Jowitt's stand specially fine were Madame Fortado, a speciality of Herefordshire, almost discarded as incorrigible elsewhere, but an early exquisitely sweet Rose; where it takes it is a pleasure. Baronne de Rothschild, very grand; Madame Hippolyte Jamain, a most superb bloom; Maréchal Vaillant, splendid bloom of this old useful Rose; and Mlle. Marie Finger.

In the division restricted to Herefordshire Miss Bulmer's (Broadlands, Hereford) stand of twelve trebles was the theme of general admiration, whether for the size and quality of the blooms or the excellence displayed in their setting-up—an accomplishment amateurs in general fail in. This lady took in style all the first prizes offered in this class. Mr. Arkwright, Hampton Court, Leominster, was an easy winner with grand blooms of Maréchal Niel. Many of your readers will remember he carried off the same honours in St. James's Hall. This gentleman exhibited a bloom of this variety in his stand of thirty-six so enormous and still so perfect that it certainly ranked as the premier bloom in the Exhibition, though, as may be supposed, dwarfing the proportions of his other blooms.

In Class 1, the floral art division, there was an artistic display of dinner and drawing-room decorations (the latter special prize presented by Lord Bute) far eclipsing all previous efforts in this direction, and pronounced worthy of comparison with the best exhibitions ever held in London or the provinces. Mr. Joseph Pulley, Lower Eaton, Hereford, was awarded Lord Bute's prize; and the Hon. and Rev. J. T. Boscawen, who was Judge in this division, complimented Mr. Pulley's gardener, by whom the decoration was made, upon its being the most simple and yet artistic and novel design of the description he had ever seen—a centre piece and four corner pieces of ordinary glass; but the pleasing effect caused by the happy arrangement of Adiantum Farleyense of different shades and some Grasses, with just a sprig of Spiræa or so, was perfectly indescribable.

The day being stormy no doubt kept many from a distance away; but the one drawback to the perfect success of the Exhibition was the absence of the Rev. J. B. M. Camm, who by missing his train deprived our western Show of his valuable assistance as one of its Judges and exhibitors, and the public of the interesting description that would have appeared in the columns of the Journal, now hurried over late on Saturday by—THE HEREFORDSHIRE INCUMBENT.

PACKING.

THE packing of fruits, flowers, and vegetables takes up no inconsiderable amount of the gardener's time and attention in most large establishments during what is termed the London

season, and as that season unfortunately includes the season of cropping, "bedding-out," Grape-thinning, and many other things which take up a great amount of time, and cannot be postponed a day beyond their proper time without increasing the labour, it is doubly necessary at this season to economise time and to prevent confusion.

When I first commenced packing here there was but little to pack, and beyond a few boxes and hampers of various sizes stuck about in corners wherever there happened to be room for one, little was kept in stock for the purpose. Now the work has gone on growing till last month no fewer than 133 packages were despatched, and it is still increasing, so that it became necessary to introduce some sort of system. Before we did so scenes of confusion were not uncommon; a box of a particular size might be wanted immediately, and any size but that of course was at hand, or having found the size required it would be minus a lid, and in the hurry a good hand-saw being a little too convenient, a little piece would, perhaps, be sawn off another lid to make it fit, and thereby create for ourselves the same difficulty to be got over another time. Boxes, too, did not always find their way home when there was no check on them, and when one loses a box there is sometimes a lurking suspicion that something else is lost with it. Besides, everyone knows who has had to pack in a makeshift sort of way, that hammers and pincers have a habit of disappearing just when they are wanted, nails of running short when we thought there were plenty; string, labels, paper, wadding, &c., ditto. The remedy for all this is the packing-shed and packing-book. A shed which I have had fitted-up for the purpose, and which also answers the purpose of office and store-shed, is on the north side of a wall, and measures about 36 feet by 10 feet 6 inches. It has a bench on the north or front side 3 feet wide on which the work is done, and another at the back 2 feet 6 inches wide, leaving a walk of 5 feet in the centre, which is none too much when several people are at work and there is a good deal of passing.

Hampers are numbered 1 to 15, boxes 1 to 66, and their sizes are known by their numbers; for instance, 1 to 20 are flower-boxes all of one length and breadth outside, the lid of one fitting any of them. Another series is for Peaches, Nectarines, and Grapes, varying in depth but not in length and breadth. Strawberry-boxes are another size, and these three measurements answer the purpose for almost everything. They are so distinct in size and appearance, and there being only three or four sizes of lids there is no time lost in hunting them up and fitting them. I have tried boxes with hinges and fastenings; but as both hinges and fastenings soon come to grief, I have long since gone back to loose lids and $1\frac{1}{2}$ -inch brads, and I find they last as long as any and are most convenient.

The packing-book is the next consideration. In this every box and every hamper is marked down as it leaves and as it returns. On the left-hand page under the heading, "packages despatched," are the following items to be filled-in by the packer—viz., date, destination, description, contents, numbers, remarks; and on the opposite page under heading of "empties returned," are date, from whence, description, numbers, condition, and remarks. I find these forms and figures have a wonderful power to bring the packages back and keep them in place. Of course they often come back broken, but that I fear is out of my control. Stock is taken at intervals to see that nothing is short when likely to be required. I hope in a future paper to say something about the way packing is done.—WILLIAM TAYLOR.

BURGHLEY YELLOW ROSE.

In your notice of the Royal Horticultural Society's meeting of July 3rd a Rose called Burghley Yellow is spoken of. I have known the Burghley Yellow for the last forty years. It is the double yellow Provence. It was brought originally to Burghley House, the seat of the Marquis of Exeter, by a French cook. I have also seen it growing in a semi-wild state at Bologna. It is a most difficult Rose to bloom, but of great beauty when the buds will open. I know no such yellow. Mr. George Paul of Cheshunt informs me they are unable to grow it there. I have several times budded it on the Briar. It is known in Lincolnshire, and is grown at this time in great perfection at Enham Place near Andover.—ALAN CHEALES.

THE Rose which was referred to in the last issue of the *Journal of Horticulture* is occasionally met with in the south

of Lincolnshire; at least I presume it is the same that is known as the old Yellow, or, as it is sometimes called, Burghley Yellow. It is a beautiful Rose—I think the brightest yellow of all Roses, and sometimes comes of good form, but frequently fails to open and is at times semi-double. If Mr. Gilbert can tell us how to grow the Rose so that it will bloom freely and well he will deserve a hearty vote of thanks from the whole Rose-loving community. The colour of the petals is as yellow as a Crocus.—SOUTH LINCOLN.

GIVING AIR.

MR. WILLIAM TAYLOR, whose writings on all subjects add, according to my judgment, an extra charm to the pages of the *Journal of Horticulture*, has (page 469) allowed himself to give birth to a suspicion that my practice may not possibly be in harmony with my theory. He may rest assured that I am too old a man and too true a gardener to say one thing and practise another. My years and my experience have taught me that "all wisdom dwelleth with no man," and that it is the grossest presumption for anyone to presume that his way is the only safe one. That is so, particularly with respect to giving air, and admittedly so even by Mr. Taylor himself; so that I think it is rather too much for him to say that I and others who differ from him belong to an old and non-progressive section of gardeners, who have, as he says, "stood still and fostered exploded notions whilst the rest of the world has been moving."

My experience also leads me to dissent absolutely from Mr. Taylor's assumption of the superiority of the young men of the present day over their fathers. I know that "beardless laddies think they are better informed than their auld daddies," but as an "auld daddy" I protest against such a conclusion; and when we are told on almost every hand of the drinking and pipe-smoking habits of young men, of much dressiness, general fastness, and superficiality of attainments, I for one must beg leave to differ from even such an authority as Mr. Taylor. Let us differ from one another with all courtesy, please, for "many men many minds." Let us be just also, for there are many young men of exemplary habits—industrious and persevering; but these are not they who despise "auld daddies" like—X.

ROSES IN POTS.—No. 1.

THE Rose is our national flower, and its national show has come and gone. However much this was appreciated, and notwithstanding all that may be said on the merits or demerits of individual blooms, I would not have Roses as plants grown in pots entirely neglected.

The present season has afforded ample proof of how admirably they can be grown in pots, how amenable they are to training into neat and compact bushes, and how effective they are. Roses in pots have been shown in large numbers this season and in splendid condition. The beautiful groups arranged by Messrs. Veitch & Sons at the London shows in March, and again at Kingston and Richmond in June, and at Bickley in July; the meetings of those champion growers, Messrs. Paul and Son and Mr. Turner, at several places during April and May, clearly show how the Rose season may be extended. Roses in pots are also grown by amateurs, but it cannot be said they have yet attained perfection; but if encouragement is offered I am sure more amateurs will take up the culture of them. I am pleased to find that Mr. Mayo at Oxford has a large collection of Roses in pots, and that they are grown by several amateurs around Reading. At Manchester also I find by your report of the late Show that three growers entered the prize list. Plymouth I find has also made a recruit or two, and were the various societies to offer substantial prizes more growers would enter the field and good plants would be shown by amateurs.

I submit that it is quite within the province of the National Rose Society to offer prizes for Roses in pots; the result would be that not only would good exhibition blooms be arranged on moss, but exhibition blooms would be shown on handsome plants—plants which would make their exhibition more varied and attractive. I do not say that large plants would be forthcoming, but I do not think it impossible. If the plants were pruned, sheltered, and protected in order to keep them back for a certain day, small plants such as nurserymen have would be shown extensively, and which are certainly very attractive to all visitors.

I have grown the following Roses in pots, and will state how they have succeeded with me:—

Anna Alexieff is a very free-blooming Rose in a pot. It is somewhat thin, but indispensable for early work. The blooms are benefited by tying them while opening. It is a very pleasing pink and a good laster, notwithstanding it goes "abroad."

Beauty of Waltham blooms very freely and comes very regular. Too much cannot be said in its praise. It is a quick grower.

Paul Verdier has proved itself one of my best. The colour is pleasing, the shape of bloom good, and the foliage grand. It is very free and a very quick grower.

Victor Verdier.—A very constant and good Rose; always sure to bloom. The blooms being large and of a very pleasing colour it ought to be in every collection.

Marquise de Castellane is the finest forcing Rose out; good substance and very attractive.

Duke of Edinburgh.—Very good for pots. It is a free bloomer, and the colour is most brilliant. Dapuy-Jamain is also very good. Camille Bernardin is very pretty, of good shape and habit, but with me an irregular bloomer.

La France, when well done, is one of the loveliest of Roses grown in pots—the colour so delicate, and the blooms of large size, but every break is not a bloom; foliage magnificent, and good grower.

Paul Néron has only its size to recommend it.

Baroness Rothschild is of the loveliest pink; comes as a rule somewhat thin, a poor laster, very strong grower, and all the blooms do not open at one time; it requires two or three weeks longer growing than several others.

Souvenir d'un Ami I have seen done well. With me it has been an entire failure. The fault may be mine.

Alba Rosea is a sweet and charming Rose, though my plant has not reached the size of some others.

Madame Willermoz is a grand Tea Rose that grows well, blooms abundantly, and has large very showy blooms.

The thirteen sorts named were the plants I first had selected for me. I have since added numerous others, several of which have superior qualities to some described. Madame Lacharme, Capitaine Christy, Madame de St. Joseph, President, Etienne Levet, Edouard Morren, Madame Victor Verdier, Mdlle. Thérèse Levet, Marguerite de St. Amand, Cheshunt Hybrid, Chas. Lawson, Céline Forestier, Marie Van Houtte (a gem of the first water), Centifolia Rosea, Madame Marie Rady, Annie Laxton, and Princess Mary of Cambridge. The above are thirty varieties of very good Roses to grow and bloom in pots, and there are others perhaps equally good.—J. W. MOORMAN.

P.S.—I trust the National Society will receive sufficient support to enable the Committee to hold two Rose shows during a year, and that Roses in pots will be included in its schedule. The Rev. Canon Hole amusingly tells us of the butchers and others around Nottingham growing Roses in pots. If those hard-working men did it then among themselves, surely those who have better and more modern appliances would take the matter up. The Rose season would be extended, cultivation would be stimulated, and the exhibitions would be even more varied and attractive than they are now.—J. W. M.

MANURE FOR AMATEURS—WRAPPING FOR CUT BLOOMS.

I NOTICED in a recent number of the *Journal* that one of your correspondents was in difficulty with regard to obtaining manure. May I ask if any of your readers have tried ivory dust? It is a very valuable manure for Grape Vines and for mixing with the compost for potting plants. Dirty dust—that is, the sweepings of the ivory-cutter's workshop, can be had for about 6s. a cwt., and though I have termed it dirty it is only contaminated by dust from boots and the other accidents of a workshop. Clean dust at about 20s. a cwt. is perhaps the most profitable, because being clean one can extract the gelatine and then have a useful manure. This gelatine, which is obtained simply by stewing the dust, is in reality superior to that obtained from calves' feet, and is especially grateful and serviceable to invalids and young children, the small percentage of phosphate of lime extracted being of great benefit to the latter.

I see that you also speak of wrapping the stems of cut blooms in damp wadding and tinfoil. The latter is rather too expensive when thin sheet gutta percha, such as artificial

flower makers use, would answer as well and be more convenient.—*PRO BONO PUBLICO.*

THE ROSE ELECTION.

As the election this year is to be of a decidedly exhibition character, and as I have also endeavoured to make some qualification for voters, I should like carrying out the thoughts of "WYLD SAVAGE"—to qualify somewhat those on whom we are to vote. "WYLD SAVAGE" has drawn attention to the great similarity between certain Roses. For some years *Lælia* votes have been given to Louise Peyronny.

Now we are only to name forty-eight Roses, and in a stand of forty-eight we should not desire to have two specimens so much alike as to appear the same Rose. I wish, therefore, to avoid this, and unless good cause can be shown to the contrary I propose to give all *Lælia* votes as heretofore to Louise Peyronny; all votes for Ferdinand de Lesseps, Exposition de Brie, or Maurice Bernardin to Ferdinand de Lesseps; all votes for Eugénie Verdier or Mdlle. Marie Finger to Eugénie Verdier; and votes for Baron de Bonstetten to Monsieur Boncenne.

Without some arrangement of this kind the election may in some degree make the position of some of the candidates erroneous. I need not further add that in these similars both Roses must not be named in the forty-eight.—*JOSEPH HINTON, Warminster.*

P.S.—My intention is to bracket these named Roses together in the list, so that it really only amounts to this, that each elector should name only one of each, or any of these four sets in the forty-eight, supposing that they or any one of them is in his forty-eight list.—*J. H.*

NOTES AND GLEANINGS.

THE thirty-fourth anniversary dinner of the GARDENERS' ROYAL BENEVOLENT INSTITUTION was held on the evening of the 4th inst. The chair was occupied by Sir Trevor Laurence, Bart., M.P., who ably advocated the claims of the Institution, and alluded to the great advance that had been made in gardening pursuits during recent years, which was particularly exemplified in the condition of the London parks. Mr. Robert Wrench the Treasurer, Mr. Philbrick, Q.C., Serjeant Cox, and Lord Alfred Churchill also addressed the company in appropriate speeches. Among the company we noticed W. E. Brymer, Esq., M.P.; Major Sandys; Drs. Hogg and Masters; Mr. Shirley Hibberd; Messrs. Veitch, Williams, Fraser, Beale, C. & J. Lee, Deal, and other friends and supporters of this excellent Society.

THE southern show of the NATIONAL CARNATION AND PICOTEE SOCIETY to be held at the Westminster Aquarium on the 18th and 19th inst. is being anticipated with much interest by admirers of those beautiful flowers. The large number of liberal prizes offered will, we hope, induce much competition, for few flowers are more worthy of extended cultivation than Carnations and Picotees. The prizes are open to all exhibitors, whether they are subscribers to the Society or not. A schedule so liberal deserves a liberal response. Notice of entry should be given to the Hon. Sec., Mr. E. S. Dodwell, 11, Larkhall Terrace, Clapham Rise, S.W., not later than the 13th inst. Good prizes are offered for Roses by the Royal Aquarium Company, which will be competed for on the same occasion. Entries in the Rose classes must be sent to Mr. E. Bennett at the Aquarium not later than the 14th inst.

OWING to the short time intervening between the completion of the judging at the NATIONAL ROSE SHOW and our going to press we accidentally omitted from our report the class for twelve Roses in threes; in which class Mr. Baker, Heavitree, Exeter, was placed first; Mr. Ridout, Woodhatch, Reigate, second; Mr. Scott, Warrington, third; and Mr. Jovitt, Hereford, fourth, with varieties very similar to those which were staged in the other prize stands. In the nursery-men's class for twenty-four Hybrid Perpetuals the winners of the second, third, and fourth prizes were Messrs. G. Cooling, Bath; R. J. Veitch, Exeter; and J. Laing & Co., Forest Hill. Mr. Curtis was awarded the first prize, as stated in our report.

MR. GILBERT, Burghley, writes to us as follows on the FRUIT PROSPECTS OF THE YEAR:—"I have just been taking a general view of the garden. The fruit is a wreck I fear, although there was a great show of blossom. Strawberries and Raspberries will not come up to promise. King of the Pippins

is the only Apple with anything like a crop, and strange but true, Glou Morceau Pear is the only Pear. What I shall do for Apples and Pears is a mystery."

MR. W. H. MANSER having tried at our request the EFFECTS OF PARAFFIN on Kidney Beans for destroying millipedes, writes to us that he applied pure paraffin to a portion of the crop: it killed the Beans. He then mixed half a pint of paraffin with three gallons of water and applied it to another portion of the Kidney Beans, and not one of them has been touched since by a millipede, and the Beans are growing very strongly. We are glad to record this experience of Mr. Manser.

AMONG the many hundred Roses in the garden of Shiplate Vicarage, near Henley-on-Thames, are several beautiful blooms of the shy-flowering double yellow Rose—*ROSA SULPHUREA*.

A COMPLIMENTARY DINNER was given to Mr. WILSON (who for so many years has been a valuable assistant at the Crystal Palace Shows) on the 3rd inst. at the Criterion, Piccadilly. The chair was occupied by Mr. Shirley Hibberd, who spoke well, and justly of the guest of the evening. Dr. Denny ably acknowledged the toast of the Royal Horticultural Society, which was proposed by the Chairman; and Mr. Harrison Weir, in responding for the fine arts, dwelt on the good influences of wood engravings on the minds of the masses, and stated that five millions of copies of engravings from his drawings were circulated annually.

THE COLORADO BEETLE.—At the Glasgow Police Board on the 9th inst. it was agreed, on the suggestion of the Lord Provost, that a vigilant look-out should be maintained lest the Colorado beetle should visit our shores. The Privy Council instructions were ordered to be sent to the Glasgow Agricultural Society, with the request to warn farmers on the subject. The Lord Provost said he had seen thousands of beetles heaped upon the American shores as they had been washed in after attempting to cross the Atlantic. While returning home from New York he had seen them on board on the second day at sea. The Dublin correspondent of the *Daily News* also telegraphs that this dreaded beetle "made its appearance on the Dublin quay on Tuesday the 10th inst., close to the Liverpool docks. The specimen discovered was a large one, and was found crawling on a rope."

WE learn that Mr. B. S. WILLIAMS has taken the lead in foreign exhibitors at the Oporto Show, taking the prize of honour offered by the municipality of Oporto, value £50; also four other first prizes. We congratulate Mr. Williams on his success at such an important Exhibition.

WE noticed at the Bickley Show the other day a seedling ZONAL GERANIUM of unusual size which had been raised by Mr. HORWOOD, gardener to J. Lovibond, Esq. The truss almost approached in size the head of a Hydrangea, the colour being orange-scarlet and the flowers of fairly good shape. It is a monstrosity in Geraniums, and will possibly be useful for decorative purposes.

THE bedding-out in the LONDON PARKS is not yet completed. The weather has latterly been too cold for exposing the exotic plants and Ferns, which play an important part in the summer decorations. Many carpet beds are very beautiful. Golden Feather appears to be as popular as ever, and Alternantheras are indispensable. The only plant which is at all likely to rival those in popularity is the Green Gibraltar Pennyroyal, *Mentha Pulegium gibraltarica*. This plant has spread with great rapidity, and must be regarded as the premier "green carpet" plant.

THE quantity of STRAWBERRIES sold in the market of New York city during one day in June was 750,000 quarts, 30,000 of which came by steamer from Charlestown, S.C.; 300,000 from Norfolk, one-quarter of which came from one grower who has over 200 acres in Strawberries; 300,000 quarts came from Delaware and Maryland, a large quantity from New Jersey and points on the Hudson near New York.

THE TEMPERATURE towards the end of last week fell considerably, and the nights were quite cold in the neighbourhood of London. In several districts hail fell, or rather showers of ice. At Kensington on the 5th inst. hailstones were scraped up by handfals, and "snowballing" was indulged in as a novel sport in July. At Swanley in Kent the hail did considerable damage on the 6th inst. in Mr. Cannell's nursery. Dahlias were cut into tatters, and Geraniums and other flowers we noticed in a miserable state. Where the lights were left

open in the Geranium house the ice shower cut quite through the foliage of the plants in the house, and of course destroyed the flowers. No glass was broken. Mr. Cannell is steadily improving this new nursery, and acre after acre is being devoted to the cultivation of flowers. The Geranium house will shortly be a beautiful sight. The collection of these plants is both extensive and choice. A few of the more striking varieties will be noticed in a future issue.

— To PRESERVE FENCE POSTS.—The American *Chemist* says that a western farmer discovered many years ago that wood could be made to last longer than iron in the ground. Time and weather, he says, seem to have no effect on it. The posts can be prepared for less than two cents a piece. This is the recipe: Take boiled linseed oil and stir it in pulverised charcoal to the consistency of paint. Put a coat of this over the timber, and he adds there is not a man who will live to see it rot.

— "T. M." in the "Gardener" says *SYMPHYTUM OFFICINALE VARIEGATUM*, a variegated variety of the well-known Comfrey, is strikingly beautiful. Its large lanceolate leaves are broadly and distinctly margined with creamy white. It is a very effective plant for planting in mixed borders, and is no less so in lines in ribbon borders; indeed, it is one of our very best plants for this purpose, far surpassing the variegated Coltsfoot that was recommended so strongly some years since.

— A TRANSATLANTIC OBSERVER remarks that the value of bones imported annually into England to be used in fertilising the land are computed to be worth ten million dollars. They are obtained from Russia, Germany, South America, and the United States. Throughout Great Britain bones are collected from every possible source of supply. So valuable are bones considered in Germany that a proverb there reads, "One ton of bone dust saves the importation of ten tons of German corn."

— MR. STEPHEN P. SHARPLES, State Assayer of Massachusetts, writing to the American *Cultivator* on the subject of the danger of using PARIS GREEN for destroying the Potato beetle, says that the question of poison is a question of quantities. One pound of poison on a thousand tons of soil is not an alarming quantity when we reflect that the antidote, the hydrated peroxide of iron, is present also. After quoting from Prof. Riley, State Entomologist of Missouri, that Paris green is sure death to the Potato beetle, Mr. Sharples asserts that if he had a field of Potatoes he should neither plough them under nor let them be destroyed, but would protect them with Paris green. Mr. Henry S. Field says, "To get rid of the pests easily take Paris green and plaster of gypsum and mix together in the proportion of 1 lb. of the former to 50 of the latter, and apply the mixture by shaking it over the Vines when the dew is on them." As evidence is forthcoming that the dreaded beetle is now in Europe the American mode of extirpating it is worthy of being recognised.

WEST KENT HORTICULTURAL SOCIETY.

BICKLEY, JULY 7TH.

By the kind permission of G. Wythes, Esq., the Exhibition of the Society was held in Bickley Park, and a site more suitable for such an event it would be difficult to find. The Park is contiguous to the railway station, and is ornamental by the many fine trees it contains, notably Elms and Cedars, and has also a sufficient expanse of open pasturage. The Exhibition was held in three marquees: one, about 150 yards in length, contained the collections of plants; another, somewhat smaller, fruit, vegetables, and cut Roses; and a third table decorations. The day was fine with the exception of a passing shower, and a considerable number of visitors, the gentry and inhabitants of the neighbourhood, attended the Show during the afternoon.

Although the Exhibition was of considerable magnitude, a glance was only needed to show how much the Society was indebted to the chief nurserymen for furnishing the tents so attractively. When such firms as Messrs. Veitch, Williams, Wills, Rollisson, Carter & Co., and Laing unite their forces under canvas there is always sufficient for the public to see. All those firms were well represented at Bickley; many gardens in the neighbourhood also staged creditable collections, in a few cases excellent; and Messrs. Cant, G. Paul & Sons, and others provided a feast of Roses.

Messrs. James Veitch & Sons occupied the stage at one end of the chief tent, and Mr. B. S. Williams the other. Prominent in the Chelsea collection were the bright and massive *Croton Macafeeanus* and the equally bright and not less distinct *C. McArthurii*. *Caladium Madame Alfred Bleu* attracted by its clear sharp colours, and the golden-foliaged *Princess of Teck*

was in excellent colour. *Nepenthes* were also included, and a choice collection of insectivorous plants, consisting of *Dionæas*, *Darlingtonias*, *Sarracenias*, and *Droseras*. The new white *Hydrangea Thomas Hogg* proved its lasting qualities, and colour was imparted to the group by some of the best of the tuberous *Begonias*. Very bright and also very remarkable was the new scarlet *Clove Tom Thumb*, the flowers being large and perfect, yet borne on stems only a few inches in height. Orchids were represented by *Oncidium papilio Kramerii*; *Cattleya Mendelii*, very fine; *Lælia purpurata*; *Masdevallias*, including the bright yellow *M. Davisii*, and several *Cypripediums*, amongst which were such new and beautiful varieties as *C. selligerum* and *C. superciliosum*. *C. Veitchii* was also in splendid condition. Amongst the Ferns *Pteris serrulata maxima cristata* was very noticeable by its stateliness and general elegance. Messrs. Veitch further arranged a semicircular group of Japanese *Acers*, surrounded with small well-grown *Roses* in pots, and margined with *Eurya latifolia variegata*—very effective; also *Spiræa palmata* and an extensive collection of cut *Roses*.

The Holloway collection was also choice, varied, and attractive. Amongst the Orchids *Lælia majalis* was very charming, and not less so was *Cypripedium superbiens*; *Odontoglossum citrosimum* was also in excellent condition. In this group *Ixora fibrobanda nana* was conspicuous, the plant being very dwarf, with handsome heads of flowers. *Dennstaedtia davallioides* Youngii, the fine Australian Fern, was exhibited in a small state, and in that state it is very elegant. *Maranta Massangeana*, *Bertolonias*, *Panax laciniatus*, *Dipladenia Brearleyana*, *Dionæa muscipula*, *Nepenthes*, *Croton Victoria*, and other choice plants were included in this excellent group.

Mr. Wills's plants occupied a large space of staging, and occupied it well. Pitcher Plants were in capital condition, as of course were such *Dracænas* as *Willisii*, *Elizabethæ*, *Leopoldi*, and *Voluta*; *Golden Caladiums* Queen, Prince of Wales, and Princess Royal; *Croton Earl of Derby*; *Phyllotanthium Lindeni*, *Maranta Massangeana*, *Cephalotus follicularis*, *Platycoerium grande*, *Yucca filamentosa variegata*, and very choice *Palms* were noticeable in this good group. Messrs. Rollisson's collection was similar in character, and included some Orchids, notably *Odontoglossum vexillarium* and the distinct *Cattleya granulata*. The group of Messrs. J. Laing & Co. was brightened by some well-grown plants of the best varieties of *Bicolor Geraniums*. *Richard Thornton* is extremely fine; as also is the very dark *Czar*, *C. H. Pollard*, and *Mrs. H. Weir*. Double *Petunias* were also included, one of them, *La Fleur de Janear*, being of wonderful size and finely mottled; also cut *Roses*, *Louis Van Houtte* being extremely fine. Messrs. Carter's was also a large group of general decorative plants—too extensive, indeed, to particularise.

The above collections are first mentioned because of their pre-eminent merit, and we now briefly notice a few of the competing collections. The first class in the schedule was open to all, yet only one exhibitor staged twelve plants in flower—Mr. Mumford, gardener to J. Scott, Esq., and who was worthily awarded the first prize. The classes for fine-foliaged plants call for no comment, nor do the show and fancy *Pelargoniums*, although good prizes were offered; the season, however, is fully too late for *Pelargoniums*. *Zonal Geraniums* were very good; Mr. Neighbour, gardener to G. Wythes, Esq., Mr. Coppin, and Mr. Talmage securing the prizes. Mr. Neighbour's plants were 4 feet in diameter and not more than a foot high, and were good in foliage and flowers. The others were rather too formal—too closely tied. *Tricolor Geraniums* were excellent, the best we have seen this year. The plants were 3 to 4 feet in diameter and in good health and colour, the successful exhibitors being Messrs. Coppin, Lover, and Neighbour. Double *Geraniums* were also very good, especially those staged by Mr. Cole, gardener to A. Mitchell, Esq.

In division 2, for members of the Society, six very good stove and greenhouse plants were exhibited by Mr. Crane, gardener to Mrs. Green, who secured the first prize, also a similar award for six fine-foliaged plants, which were really excellent. *Croton angustifolium* was in superb colour, and *Dæmonorops fissus* and *Areca lutescens* were very good. *Roses* in pots were poor, *Fuchsias* very good, Mr. Neighbour again winning, followed by Mr. Cole and Mr. Pepper. *Gloxinias* were very good, Messrs. Jeffreys and Osborne being placed equal first. Mr. Neighbour won first honours for *Begonias* in flower, and Mr. Talmage, gardener to A. B. Pearce, Esq., first for "foliage" *Begonias*. The exhibition of these was rather extensive. There was a good show of *Achimenes*. Mr. Neighbour was an easy winner, followed by Mr. Monckton, gardener to J. B. Alston, Esq.; and Mr. Jeffrey, gardener to T. J. Smith, Esq. Exotic Ferns were good and British Ferns excellent, Mr. Neighbour winning in both classes for six plants, followed by Mr. Clifford, gardener to J. Batten, Esq., and Mr. Gammon. For single specimens Mr. Osborne won with a grand example of *Davallia Mooreana*; Mr. Field, gardener to W. Palmer, Esq., being second with *Lygodium scandens*; and Mr. Neighbour third with *Adiantum pedatum*. Mr. Mumford staged good *Dracænas* and secured

premium honours, and Mr. Monckton was successful with *Caladiums*. He exhibited capital plants.

ROSES.—In the open class for forty-eight varieties, trebles, grand collections were staged by Mr. Cant, Colchester, and Messrs. G. Paul & Son, Cheshunt. Neither of those famed rosarians have staged better, if as good, triplets this year. They were awarded equal first prizes, and well did they deserve them. There was scarcely a failing bloom in either stand. It is not necessary to name the varieties, but it may be said that the two new Roses, E. Y. Teas and Madame Prosper Langier, were in splendid condition. For twenty-four single blooms Messrs. Cant, G. Paul & Son, and J. Laing & Co. were placed in the order named for collections of remarkable quality. Louis Van Houtte in Mr. Laing's stand was the finest bloom of that fine Rose we have ever seen exhibited. For twelve Roses of any variety Mr. Cant won with magnificent examples of Marie Baumann; Messrs. Paul & Son being second with a charming stand of *Mdlle. Marie Finger*, and Capt. Christy third with Mons. Noman. In the amateurs' classes Capt. Christy won the first place for twenty-four varieties, single blooms, with a really excellent collection; Mr. Hall, gardener to J. Whitehead, Esq., was second; and J. A. L. Lovatt, Esq., Chislehurst, third. For twelve varieties W. Palmer, A. B. Pearce, and A. Mitchell, Esqs., were awarded the prizes for very good stands; and for six blooms of any variety Capt. Christy won with admirable examples of Madame Lacharme, Mr. Field being second with *Senateur Vaisse*, and Mr. Neighbour third with *Pierre Notting*.

Other cut flowers and Grasses were exhibited, but there was nothing noteworthy except the cut sprays of *Fuchsias* in twelve varieties. These were very attractive, the prizes being won by Messrs. Neighbour and Cole. But of special merit was a collection of *Verbenas* in the following twenty-four varieties from Mr. Cannell, Swanley Nurseries:—*Annie*, *Lady Ann*, *Lady Cowley*, *Lady Leigh*, *Basilisk*, *Grand Duke*, *Ariosto Improved*, *Pentonia*, *Grand Monarque*, *Antoinette*, *Peacemaker*, *Ensign*, *Beauté Supreme*, *La Loire*, *Jno. Stainer*, *Pomeraine*, *Blue Boy*, *Jas. Birkbeck*, *Princess of Wales*, *Crimson King*, *Purple Emperor*, *Mrs. Owen*, *Isa Brunton*, and *Lady Folkestone*. Mr. Cannell also exhibited *Silver Tricolor Geranium Lady Dorothy Nevill* in excellent colour, quite small plants arranged as a pyramid. The effect was very good.

FRUIT.—The display, which was only of moderate extent, contained some good Grapes, Peaches, and Strawberries. The best black Grapes, and good they were, came from Mr. Crane, followed by Mr. Rolliason and Mr. Pepper, and the best white Grapes (well-finished Buckland Sweetwater) from Mr. Jeffrey and Mr. Horwood. Mr. Crane also exhibited *Royal Muscadine* in very good condition. Melons were small, but Mr. Crane's *Bloxholm Hall*, which received the first prize, was of splendid quality, and nearly as good was *Eastnor Castle* from Mr. Clifford. Mr. Horwood had the first honours for Peaches, Nectarines, and Cherries. Good Peaches were also exhibited by Mr. Neighbour, and Nectarines by Mr. Boosey, who had the second prizes in those classes. For three dishes of Strawberries Mr. Moyce, gardener to W. Dalton, Esq., won with *British Queen*, *President*, and a variety resembling *Oscar*; and for one dish Mr. Neighbour won with *Sir J. Paxton*.

VEGETABLES.—These were very good indeed. In the collections of nine and six varieties first honours were secured by Messrs. Neighbour and Crane respectively. Messrs. Rolliason, Eke, Gammon, and Monckton also exhibited well in these classes. Messrs. Neighbour, Eke, and Cole were successful in the class for salads. Tender and True was the best Cucumber. It was exhibited by Mr. Neighbour. Mr. B. S. Williams exhibited a brace of *Osamston Manor*, and Messrs. J. Laing & Co. a brace of *Stanstead Rival Cucumbers*. Both were very fine. Some very good vegetables were also exhibited in the cottagers' classes.

TABLE DECORATIONS.—A tent was set apart for these. The arrangements were chaste rather than elaborate. Mr. Russell Oliver's £10 prize was won by Miss J. Lovibond with a charmingly arranged table. Miss Boosey, Miss Oliver, and Mrs. Wood also exhibited well.

The Show was well arranged, and the arrangements reflected credit on the Hon. Sec. and the officers; but the Exhibition was not equal to the Show of the Society that was held last year at Chislehurst.

THE NATIONAL ROSE SHOW.

THERE are many jottings I should like to make anent our grand tournament on the 4th, but I must defer them for the present. There is one point, however, on which I should like to speak very decidedly, and that is the great obligation we are all under to Mr. Newman, who so ably carried out the details. When I asked the Committee to secure his services I felt sure from all that I knew of him we had the right man in the right place, but I had no idea that he was so thoroughly effective an organiser as he is. His quiet and unobtrusive manner

is not indicative of listlessness, on the contrary his energy is very great; while all who work with him can testify that there is nobody with whom it is more pleasant to be associated. And when it is remembered that the Hall was not given up to us until six o'clock the evening before, and that not a hitch occurred in the whole of the arrangements, that the exhibitors found everything prepared for them, and that the Judges were enabled to proceed to their work punctually at the time appointed and the public admitted at the hour announced, I do not think I shall be considered as saying too much when I say that the chiefest merit of all this is due to him. I am sure his many friends would be delighted to hear that he had some fitting sphere in which his peculiar abilities might be appreciated.—D., Deal.

ARTIFICIAL ROCKERY.

THE accompanying figure represents Messrs. Dick Radclyffe and Co.'s decorations at the Royal Horticultural Society's Show on June 19th, which were greatly admired by the visitors, and were referred to as follows in our report of the Show:—



Fig. 13.

"The reception in the great tent was appropriately cool, for Messrs. Dick Radclyffe & Co. had erected a charmingly natural pile of artificial rockwork. The stones were carpeted with moss, and from the crevices sprang fresh green Ferns, Begonias, &c. Spouting fountains sent jets of tiny spray from the base-like miniature springs, and from the top of the rock a gurgling stream of water poured into the pool below. The whole had a very refreshing effect." The figure does not quite do justice to the decoration as arranged at the Show.

COOMBE COTTAGE,

THE RESIDENCE OF E. C. BARING, ESQ.

COOMBE, or Coombe Warren estate, which belongs to H.R.H. the Duke of Cambridge, has long been noted for the purity of its springs. In the reign of King Henry VIII., at the time that Cardinal Wolsey built that magnificent Palace Hampton Court, he had the water conveyed from the Coombe springs to the Palace by means of leaden pipes. The distance these pipes traverse is from four to five miles, and they pass under the Thames at Kingston. The main body of water used at Hampton Court Palace is still supplied from Coombe, and the conduit houses are still remaining, apparently as perfect as they were in Wolsey's time.

Mrs. Loudon in one of her admirable works has mentioned the noble Gorse bushes at Coombe, but of those there are few remaining. The estate was looked upon as extremely sterile, and, to quote the words of an old farmer, "not worth 1s. 6d. per acre." But on this once sterile ground many mansions have been erected, and the Gorse bushes have given place to

choice collections of Conifers, Rhododendrons, and other shrubs, which grow remarkably well.

Coombe Cottage, the subject of our present engraving, has grown from a "cottage" to a mansion. The grounds are beautifully laid out, and are furnished with the choicest of flowering and other shrubs, and the gardens contain many glass structures for the cultivation of indoor fruit and flowers, which are much in demand all the year round. We first entered a large span-roofed house containing a miscellaneous collection of stove plants, principally grown for cutting from, or of a small size for table and room decoration. Trained up the rafters are *Stephanotis floribunda*, *Dipladenia amabilis*, *Jasminum Sambac flore-pleno* and *ligustrifolium*, all very sweet-scented, and hence they are favourites of Mrs. Baring. We also noticed large masses of *Cœlogyne cristata*, *Cattleyas Trianae* and *Mossiae*, and a well-bloomed specimen of *Lælia*

purpurata. Parallel to this house are two other span-roof houses. In the first are planted *Gardenias*, which are models of health. A corner in this house is devoted to *Euphorbia jacquiniæflora* also planted out, which is the best way to obtain a supply of large and brilliant flowers. *Eucharis amazonica* is also largely grown, and suspended from the roof are *Clerodendrons* and *Stephanotes*. The other house is divided in two departments, the first being set apart for the large-flowering section of *Pelargoniums*, which are grown extensively for decorative purposes; and in the inner part is a rare and extensive collection of cool Orchids making extraordinary strong growths. Amongst others we noticed quantities of *Odontoglossum Pescatorei*, *Alexandra*, *citrosmum*, and *nævium*, also several plants of *Lælia Dayana*, *Masdevallias*, *Lycastes*, &c. A few Ferns are also grown in this house, such as *Adiantum cuneatum* and *gracillimum* and a variety of *Gleichenias*, all doing



Fig. 14.—COOMBE COTTAGE.

well. A large *Azalea* house was next entered; it is 60 feet long by 20 wide, and contains an extensive collection of plants, all of which have been repotted and are rapidly making new growths. There are also some very fine plants of *Rhododendrons jasminiflorum*, *Alexandrae*, and *Princess Royal*, which Mr. Baker speaks most highly of. In the same block, but in a west position, is a long half-span house used as a show house, the front being plentifully furnished with such flowers as are in season; and on the back walls are some very fine *Camellias*, *Lapagerias*, *Plumbago capensis*, and other greenhouse climbers, while beneath are large *Camellias*, *Rhododendrons*, &c.

We next arrive at a series of lean-to houses. The first compartment is a vinery carrying a beautifully even crop of *Black Hamburgh Grapes*. The bunches are of medium-size, berries large and of an intense black colour. The second is devoted to *Peaches* and *Nectarines*, which will be soon ready for gathering. *Royal George* and *Violette Hâtive* *Peaches* and *Elruge Nectarines* are carrying heavy crops. The back wall of this house is planted with *Camellias*, which are doing remarkably well, the shade from the *Peach* and *Nectarine* trees suits them admirably. The next compartment has one *Nectarine* in it, and a very fine tree it is, covering a space of 20 square feet, and perfectly furnished from top to bottom. The top of this range is devoted to *Roses*, principally *Teas* and *Noisettes*,

which are in great demand. The *Roses* are planted out and do remarkably well.

Passing through the kitchen garden we come to a large span-roof house rich in general stove plants, Orchids, *Nepenthes*, &c. In this house are some plants of *Calanthe Veitchii* of extraordinary strong growth, some especially fine *Ixoras*, *Crotons*, *Palms*, *Anthurium Scherzerianum*, *Alocasias*, *Caladiums*, *Adiantum farleyense* and other Ferns. *Nepenthes Sedeni*, *Hookerae*, and *Rafflesiana* are of remarkable colour and with very fine pitchers. The cool end of this house is devoted to Orchids—*Pleiones*, *Cypripediums*, quantities of *Dendrobium nobile*, *Lælias*, *Cœlogyne cristata*, *Thunias Bensonæ* and *alba*, and a remarkable plant of the very curious *Dendrochilum filiforme* with wonderfully fine racemes of flowers. At the extreme end of the house a dull and unsightly wall has been converted into a pleasant scene by placing peat against the wall and supporting it with a wire framework, on which a great variety of Ferns are now growing in luxuriance. Adjoining this house is a *Black Hamburgh* house. The crop is fast colouring, and affords evidence of good culture. On the south wall of this garden are the *Peach* trees, which are covered with glass, and in the front near the glass numbers of excellent *Tomatoes* are ripe.

In the frame-ground are extensive span-roofed pits, one of which has been devoted to *Vines* in pots. The crop has

been cut, one of the finest crops we may state that it has been our good fortune to see for many a day. The Vines were grown on the double-root system—that is, the canes were pegged over the rims of the pots into a bed of rich soil, into which they rooted and thence derived much support. On the other side of this house is growing quantities of Negro Largo and Brown Turkey Figs. The Negro Largo Mr. Baker considers the best of all Figs; it is dwarf and prolific as well as of excellent flavour. The corresponding pit is now filled with Tomatoes just ripening, this crop having succeeded French Beans. A very useful range of three compartments for the growth of early Grapes, Melons, and Cucumbers has just been erected under Mr. Baker's superintendence, also a similar but somewhat larger range, the two end houses being for Strawberry and French Bean forcing, and the middle one for Muscats, which were planted during October last, and now cover the roof. Numerous smaller ranges of pits and frames are also provided. The glass structures are numerous and face every point of the compass.

We pass on to what is known as the Dairy Lawn, at the extreme end of which is the model dairy fitted-up with every modern appliance. This lawn has been much extended by Mr. Baker, and is a very pleasant part of the grounds. Leading from this lawn to the pleasure grounds are a series of panel beds, divided by Yew hedges and bounded by a high wall massively covered with creepers, principally sweet-scented, and the beds are filled with sweet-scented flowers, such as Roses, Mignonette, sweet-scented Geraniums, and the Sweet-scented Verbena (*Aloysia citriodora*). A continuation of this border leading to the house is tastefully planted with Abutilons, Cannas, Sweet Peas, and subtropical plants, with a front row of Viola (blue), and *Dactylis variegata* (white), mixed. From this point and on the front lawn a view embracing nearly thirty-five miles of country is to be seen. Leith Hill, Box Hill, and the Crystal Palace are all visible. An ornamental terrace wall fronts the house, where there are numerous tastefully arranged baskets and vases. Two flights of steps bring us below the terrace wall into the rosery, flower garden, and another lawn, on which are some famous and extensive banks of Rhododendrons, including all the best new varieties. These form a grand feature to the place. At the bottom of this lawn are flower beds and some famous standard Rhododendrons, one approaching from 15 to 20 feet high and as many in diameter. There are also amongst the Conifers a fine *Pinus lasiocarpa*. P. Pinsapo and a large specimen of *Thuja Lobbii*, a perfect cone, are noteworthy. Roses are grown in large numbers on arches, pillars, in beds, on their own roots, and on dwarf and tall standards: all are doing well, but Mr. Baker is in favour of dwarfs. Abutting these grounds are several acres of wood with tastefully laid-out gravel and grass walks, some winding to the substantial and well-built model farm.

The kitchen garden is plentifully stocked with every requisite; it is also ornamental from the plan that has been adopted of training the leading shoots of the pyramid fruit trees on arches over the walks. The effect of this arrangement is very pleasing, and does not impair the fruitfulness of the trees.

There are many places of more imposing exterior than Coombe Cottage, but few are in better order; and there are not many gardens where better practice is carried out than that of Mr. Baker, the able, and courteous as well as able, gardener.

A MORNING AT CHESHUNT.

"AFTER thunder, rain," remarked Socrates on a too memorable occasion. After the turmoil of the Rose battle on the 4th how refreshing a morning among the new Roses at Cheshunt!

Starting from Liverpool Street—a great improvement on the old Shoreditch terminus—a pleasant run of forty minutes lands at the Cheshunt station. The Old Nurseries are about twenty minutes' walk, down a lane first, where every cottage has its miniature and well-appointed Rose garden, and then along the high road which once led to the great bed of Ware. Stronger attractions now stay the traveller. On entering the nurseries the attention is at once caught by the collection of Roses in pots. How the beautiful little plants can be such a blaze of beauty and yet do their duty again in the autumn is a marvel, yet so it is; I was informed they would then again be equally fine. But my mission was to the new Roses and seedlings. On our way to these we passed by the original Cheshunt

Hybrid, a dismal-looking affair now the old parent stock, but the parent of flourishing children settled all over the world already. "It grows very well with me in Auckland," was casually remarked the other day to Mr. Paul by a stranger. They are most anxious looking for seed pods on this Rose, but at present have had no success; the hips attain a certain point and then drop off. It seems doubtful whether these hybrids are not hopelessly sterile.

Arrived on the ground, the seed beds of last year were first of all inspected. Funny little things the young Roses are. One sturdy little fellow of 3 inches high had his five buds already, and had been allowed to keep them in compliment to his audacity; ordinarily such precocity is promptly suppressed.

Passing on we inspected some splendid François Michelon as large as Paul Neron, but shaped infinitely better; Julie Touvais with most exquisite—almost Homère petals in half-open bud; Emily Laxton like Monsieur Noman in the bud, but opening far better than that most queer-tempered fair-weather Rose; John Bright, bright indeed, spreading quite a fiery glow over a long row of standards; Sultan of Zanzibar, flashing its dark crimson; and Duke of Connaught, with which I was extremely pleased. It has the peculiar dark red brilliancy of Monsieur Boncenne with an infinitely better shape, and with buds after the manner of Camille de Rohan at his best; foliage very firm and substantial. Altogether a very great acquisition.

And now as to the newest of all. Many "mute inglorious Miltons" are worked on Briars and then suppressed, not appearing afterwards quite good enough for commerce. Others are still *sub judice*. I was much struck with one violet-coloured, which I am not allowed to speak of. I named him on the spot "The Dark Horse" in consequence. Another seedling of the most brilliant scarlet has the Noisette foliage of Boule de Neige; if it can be had solid enough Boule de Feu will begin a new and very charming strain for us. Marguerite Brasseur seems a more robust Charles Lefebvre, but almost too similar for two in a box. Duchesse de Vallombrosa was magnificent; she will speedily take her place amongst the cream of our white Roses. Capitaine Christy very fine. I hope Mr. Camm will recant in this instance, as well as in that of Madame Lacharme. And, to return to the seedlings, the Duke of Teck I may speak of. Mr. Paul thinks him the best Rose since the Duke of Edinburgh, than which there is, I think, no other such light red Rose in existence; its pure distinct scarlet is almost dazzling, the foliage robust, the shape and substance in all ways satisfactory. Amongst other novelties I heard also of a pink sport from Maréchal Niel. It has been obtained from a tree in a nobleman's garden; should the two buds that have been inserted prosper it will one day be famous.

To conclude, in his inviting little red paper of trains and directions to summer-coming visitors Mr. Paul gives a list of various kinds of Strawberries. It was no part of my business to inspect the plants in the nurseries, but I can answer for the excellence of the fruit in combination with cream after luncheon.—A. C.

THE ROSE YEAR.

ROSES here (Longleat) and elsewhere about the neighbourhood where they do not receive primary attention are poor, being wanting in size and substance. They were much injured by late frosts; and the dry parching weather which followed, aided by aphides, made them grow less vigorous than usual. There are some growers, however, who seem to defy the weather, and amongst the former is Mr. Keynes. This veteran showed some splendid flowers at Frome; one François Michelon was a marvel both in size and shape. Other good flowers were Capitaine Christy, Duchesse de Vallombrosa, Etienne Dupuy, La France, Madame Lacharme, Mlle. Eugénie Verdier, Mlle. Thérèse Levat, Souvenir de Madame Boll, Comtesse Nadailac, Madame C. Kuster, Monsieur Furtado, Niphetos, Alba Rosea, Marie Van Houtte, and Souvenir d'Elise Varden. Roses about here were about at their best at the time of the National Show.—WILLIAM TAYLOR, Warminster.

THE very early blooms of Gloire de Dijon and Devoniensis opened very badly, but the later flowers are expanding freely. They are very profuse and very globular. I have had a "Gloire" in every box of twenty-four I have set up this season. I could cut hundreds of blooms from the trained pyramids which were not pruned. Some of the Maréchal Niel blooms were good. Souvenir de Malmaison has been very good. It appears to be

a very good season for globular Roses, but, singular to say, while it suits these it has suited Général Jacqueminot, which was shown by Mr. Paul and Mr. Turner at Richmond in extraordinary condition. Mons. E. Y. Teas is doing well this year; it is a grand addition to dark Roses, and it has a worthy light associate in Duchesse de Vallombrosa. These two new Roses will be in great request. Le Rhone, Abel Carrière, Baron de Bonstetten, Madame Prosper Langier, Star of Waltham, Sir Garnet Wolseley, Prince Arthur, Marchioness of Exeter, Emily Laxton, Miss Hassard, Royal Standard, and John Bright have all been in fine condition, and have attained a foremost place as exhibition Roses. Triomphe de France is not a "triumph" in England, and while the Rev. J. B. M. Camm should be in every garden it has not won a high position in the stands.—J. W. MOOREMAN.

ARTIFICIAL FERTILISERS.

"A RETIRED GARDENER" details a very interesting practice with so-called artificial manures in the garden, but it is of rather an expensive, not to say wasteful a character. He admits as much when he says that an equally good effect will be produced if only half the manurial elements are used, the rest of the dressing being of simple water. Yet even with this reduction his quantities so far surpass any usual or necessary amount, that it will be useful to consider what they really come to. On a few rows of Peas extravagance in manuring is of no particular consequence, but when we come to some acres of kitchen or flower garden it would inevitably be a deterrent from what on a reasonable scale would be a valuable aid to the gardener.

First as to water. "A RETIRED GARDENER" prescribes an unlimited quantity, which he says he is confident would exceed a gallon to the square foot of ground, to be applied once a-week. But this quantity is equal to a rainfall of 2 inches per week, or as much as two days of constant rain in the seven. It therefore exceeds 8 inches per month, which is an amount that does not occur once in a dozen years. Half the quantity, or 4 inches in a month, is above the average of even a very moist summer. Those, therefore, who have not an unlimited supply of water or of labour at their command may well be content if they can in a period of drought administer once a-week only half a gallon per square foot, using, of course, all proper precaution against evaporation.

Next as to fertilisers. "A RETIRED GARDENER" suggests 1 lb. of guano to ten gallons of water, which he would use on 10 square feet of ground, though he admits it would suffice for 20 square feet if the ground were previously soaked with plain water, and a solution of this strength he would apply once a-week; but 1 lb. of guano to even 20 square feet is equal to about a ton per acre, and to 10 square feet it is equal to 2 tons per acre. If this is to be applied once a-week, say during only eight weeks of drought, it will come in the one case to 8 tons, in the other to 16 tons per acre, and the cost of this will be, at importers' prices, £120 to £240. With nitrate of soda and superphosphate of lime "A RETIRED GARDENER" is only a little less extravagant. He would add to each ten gallons of water 1½ lb. of the latter and a quarter of a pound of the former, to be distributed as before, once a-week, on 10 to 20 square feet of ground. This would in eight weeks come to 10 to 20 tons per acre of superphosphate, costing £60 to £120, and 2 to 4 tons of nitrate of soda costing £30 to £60, the total cost being thus £90 to £180 per acre for a single crop!

It need not be said that such quantities and such outlay are alike unknown in either agriculture or horticulture on a large scale, and that no plants exist which could assimilate, far less repay, anything approaching to such doses of manure. In ordinary farming 1 cwt. of nitrate of soda or 3 cwt. of guano are a usual dressing once in the year in addition to farmyard manure. The effect of such an application is instantly visible, and few farmers find profit in more. Mr. Lawes' valuable experiments on farm crops on the same ground during twenty years in succession, show that when no farmyard manure is given the highest fertility may be maintained by annual dressings containing only 3 cwt. of nitrate of soda; that 4 cwt. gives somewhat larger returns, but not in proportion to the increase in the manure; that 8 cwt. gives a little more than 4 cwt., but that hardly any addition is obtained to the crop by manuring beyond that point. It is, indeed, true that the gardener desires his crops to be of greater succulence and luxuriance than the farmer does, and we may therefore concede that

he may beneficially employ double what the farmer finds profitable; but he should also recollect that it has been proved that when plants intended for food are too richly fed their juices contain the manuring ingredients in an undecomposed state, and that sheep and cattle have often been poisoned by eating herbage or Turnips raised by overdoses of nitrate of soda, or ammonia, or guano.

If, then, we take as the limit of safe application to each crop double the amount that a farmer would use we shall find that when we reduce it to pounds, to be applied to 10 square feet of ground, we ought not to exceed—of guano one-third of a pound, or, instead of guano, of nitrate of soda a quarter of a pound, and of superphosphate half a pound. These may be sprinkled on the surface in rainy weather and left to be washed in. In dry weather they may be dissolved at once in five gallons of water and poured on, or, what will be better, they may be divided into four doses and repeated at a fortnight's interval. If too much water is given so as to flow away in the subsoil or the drains it will wash away the manure, and this is no doubt the way in which the excessive doses of manure administered by "A RETIRED GARDENER" were disposed of, and thus were prevented from poisoning the plants and their consumers.—J. B. K.

THE NATIONAL ROSE SHOW.

FROM first to last your Rose number is a pleasure to me, and I doubt not very many more of your subscribers, for throughout the number but one spirit seems to pervade it, and that is of the congratulatory or jubilant order. Why even, *mirabile dictu!* "A PARSON'S GARDENER" can say a kind word about a "WYLD SAVAGE," and also write an exceedingly pleasant letter upon some of the best and oldest of our Roses. Surely the Rose millennium is not a thing of the future, but has come and gone last week.

And this reminds me of the wish expressed by my respected, not opponent (let even a "WYLD SAVAGE" claim fraternity) but *confreire*, as to a wish that I should make some criticism and remarks on the National Rose Show. This I have already done in the Rose number, but the exigencies of going to press were so great that my remarks and yours were mixed up together, so that there is still left plenty to say about our great Show; and indeed strange it would be if so great an event as the first exhibition of the rejuvenated National Rose Society could not furnish food for many articles in the English Rose Journal. Now that the dust has a little subsided from the hot racecourse, now that the Rose boxes are empty and all the great shows are over, now that the stupendous whole is removed from the mind's eye, let me say a few words about some minor things that struck me.

And first of all I wish once more to congratulate you, the Editors and Proprietors of the Rose Journal, in having the best contested fight for the cup which you presented for competition. This, as most of your readers will remember, was for twelve blooms, distinct varieties. The stands which were staged in this class were both numerous and good, but I do not hesitate to say that in my humble opinion the stand which won the first prize was not only the best in the Show but also the best twelve I ever saw. Mr. Smallbones, of Chatteris near Cambridge, must be a wonderful grower to be able to stage such blooms as they were. All my notes of the Show were left at your office, but if I remember rightly there were blooms of La France, Eugénie Verdier, Charles Lefebvre, Marie Baumann, &c., which were all splendid specimens. I never saw a more even lot. There were twelve blooms of equal size, of bright fresh colour, perfect form, and well set up. The only drawback (alas! that there should have been one for such blooms) was that they were too crowded together. The box was never intended for twelve such blooms as those; it might have accommodated six, but not more. No sign of moss was to be seen and very little foliage. The blooms were so large that they touched one another. Mr. Keynes, who judged them and who travelled back with me, quite agreed with me as to their great excellence; so that the Editors may rest assured their cup was well contested for and well won.

Working one's way up the room I do not think anything was more striking than the boxes of nurserymen's Tea Roses. One thing that I remarked was the one marvellous bloom (at least) that each nurseryman had—e.g., Mr. Davison of Hereford showed a marvellous bloom of Comtesse de Nadailac, Mr. Keynes an equally good bloom of Niphetos, and Mr. Cant of Boule d'Or. Now these three Roses are so difficult to make anything of that it is quite an event to see good blooms shown, and if the National was memorable for nothing else it would by me be ever remembered for the astonishing blooms of Tea Roses, which are so difficult of cultivation.

In the class for twenty-four distinct varieties (Hybrid Perpetuals) Mr. Curtis staged a very beautiful lot of blooms. I could not help exclaiming, "Bravo dear old Devon!" as we

marked his name down as the winner of the first prize. The blooms were so very fresh, clean, and even that it would be difficult to imagine a finer lot if they had been cut that morning within a few miles of London. I am delighted to see how well Mr. Curtis has staged this year, and, contrasting his stands with those of the few last years I am amazed at the marvellous improvement. If he goes on in this way he may soon play the part that Mr. Jowitt has played among the amateurs.

Beginning with small things, that gentleman has within (I believe) three years advanced to the highest position and won the premier prize of the year, and this brings me to a consideration of his stand and some of the lessons it teaches me. They may be nothing worth, but such as they are I offer them to the attention and friendly criticism of your readers. I think it will be granted that Mr. Baker's (who won the second prize) blooms were fresher than Mr. Jowitt's, but the latter's were larger and perhaps a little more even throughout. Certainly Mr. Baker's Roses were more highly coloured than his great rival's, but some of his blooms were undoubtedly smaller than any of Mr. Jowitt's. Taking this for granted, let us look at the various Roses shown by these twin giants. Mr. Baker showed forty-eight of the best-known varieties, such as Alfred Colomb, François Michelin, Marie Baumann, Duke of Edinburgh, Ferdinand de Lesseps, Maurice Bernardin, &c., and nothing could have been more beautiful than his stands; but it is evident that some of his best blooms were of varieties which are never large, such as his favourite Duke of Wellington. Now Mr. Jowitt's stands, while containing all the best varieties, also had splendid blooms of older sorts, discarded by many and grown by very few. In his stands were found Madame Charles Crapelet, Lord Herbert, Madame Boutin, Madame Bellon, L'Esmeralda, Jules Margottin, &c. From this I wish to draw the inference that to show forty-eight well we amateurs must largely increase the number of our varieties. Mr. Jowitt, I believe, grows, and grows largely, about 150 sorts; now I am not sure, but I should certainly be "surprised to hear," that Hercules has more than seventy sorts of Hybrid Perpetuals. The advantage, then, that Mr. Jowitt has this year is great, because he has so many more varieties, all of which are capable of bearing grand blooms if forced on and well cultivated, although perhaps as a rule they give you but indifferent flowers.

Now may I without presumption or self-praise speak of my own case as bearing-out this point? I grow less sorts even than Mr. Baker. I certainly have not more than sixty sorts, and when you take out of these Duc de Rohan, Emilie Hansburg, and other late sorts, I have not more than fifty. To show, therefore, forty-eight sorts is always a matter of great difficulty to me, and I never could do it were it not for my Teas. So before the Alexandra Palace Show, after my return from Torquay, as I was settling on the boxes, the thought occurred to me, Don't try and show forty-eight or even thirty-six; throw all your strength into twenty-four trebles, and try and make a respectable stand. I did so and was first, beating both Mr. Baker and Mr. Jowitt. As my small number of varieties are all the very best sorts, and cultivated in twenties, I was able to cut three young blooms of twenty-four sorts with ease, and so was fortunate enough for once to win a first prize. But here I wish to make a remark which will startle if not astound not a few, and that is the fact that I cut in the sun. Yes, at the hottest period of the day. Our last train to London goes at 5 P.M., and my boxes and man were not home from Torquay till 2.30 P.M., so I with fear and trembling did a thing I never ventured on before—I cut my blooms very young in a broiling sun and won a first prize. No one (my man told me), would believe this at the Alexandra, and I should very much like to hear the opinions and custom of some of your readers. I am told that Mr. Curtis recommends cutting in the sun, and as he is a diligent reader of the Journal perhaps he will state his reasons for this, if it is the case. But my own experience, furnished by Mr. Jowitt's stands, makes me feel convinced that we who try to show forty-eight distinct, ought to grow far more sorts than we do, and if we feel disinclined to do this, then let us be content to leave the larger classes for the giants, and confine ourselves to trebles and twenty-four and twelve varieties.

Some reader may here triumphantly exclaim, "But at Hereford this year, on Mr. Jowitt's own ground, Mr. Baker turned the tables on him and won the cup from the lion's teeth." Yes, so he did, and much do I, one of his oldest friends, congratulate him on this great achievement. But my reasoning on this point is not so totally demolished as you may think, for the cup prize at Hereford is for thirty-six varieties, not forty-eight, and the alteration in number makes all the difference, for it is the last twelve that tries us, and which often compels us to put in small blooms. A greater triumph than that won at Hereford by Mr. Baker is not to be imagined, and all, not perhaps excluding even Mr. Jowitt, will rejoice with him on taking Mr. Cranston's cup to Exeter. What a year of great contests will 1878 be when the two giants meet to contend for the ownership of the cup! for I cannot doubt that it lies between these two alone.

Before I conclude this discursive letter let me say a word of

praise as to the arrangements made by the Secretaries and Mr. Newman for the accommodation of the exhibitors in St. James's Hall. I am told that there was a concert the night before, and yet at 6 A.M. all the staging was up, the classes marked out, and every exhibitor's name placed on the exact spot his boxes occupied. There was not the slightest confusion, no alterations made; all went easily and smoothly, and without confusion the Hall was cleared and the judging completed in about an hour and a half. A grand Show it was, and one ever to be remembered—a Show which will, whatever be the fate of future exhibitions, redound to the credit of the Committee and the Honorary Secretaries, and furnish food for discussion and congratulation among rosarians for many months.—WYLD SAVAGE.

NOVELTIES IN THE ROYAL GARDENS, KEW.

THE rockwork presents a pretty show of flowers, inclusive of many species of individual interest. *Delphinium cashmerianum* is one of the best for this position, being dwarf and bearing large blue showy flowers. It was introduced to Kew about three years since, and few only have been distributed. *Anemone obtusiloba*, though known long ago, is now extremely rare, and was perhaps lost to cultivation until a few years since, when seeds were received which produced the present specimen. It has large leaves and is very compact, scarcely at all spreading; the flowers are pure white, and produced several together on short pedicels above a leafy involucre. It is a native of the Himalayas, and was first introduced by the Royal Horticultural Society. The Edelweiss, a plant of interest to tourists in particular, is here in flower. It is said not to grow below a certain elevation, and is brought down by travellers to show that they reached this particular altitude. It is known as *Gnaphalium Leontopodium* or *Leontopodium alpinum*, and though considered difficult of cultivation is not really so. In winter it appears dead, and is then often thrown away by mistake. *Phlox ovata* is one of the best of a genus containing many handsome species. Its flowers are much like those of *P. reptans*, which is used for spring bedding; but the leaves are broad, and the stems stiff and erect. *Primula sikkimensis* is much rarer than need be, and here has been in good condition. *Wulfenia Amherstiana* is a choice and rare alpine. The flowers are blue, prettily disposed on one side of erect stems, and are associated with leaves of somewhat Primrose-like appearance.

Fremontia californica, on the ornamental wall near the Orchid house, is now in splendid condition. A great part of the tree is almost hidden with large golden saucer-shaped blooms, equal in size to those of a Gum Cistus. The tree is clothed with very neat foliage, and forms a first-rate wall-covering. Though perhaps hardy as a shrub, it only reaches perfection in a similar position. Near this the newly-introduced *Lilium cordifolium* is flowering, it is said for the first time in Europe. It is the species to which by some botanists *L. giganteum* is referred as a variety. It is much more difficult to manage. As a garden plant it is likely to be much inferior to *L. giganteum*; the flowers are fewer, and do not compensate by larger size.

Galax aphylla, a somewhat rare herbaceous plant, is striking in that department. It is densely tufted, the leaves round and dark green, among which arise the numerous spikes of pure white flowers. *Gillenia trifoliata* is not often seen, though forming a pretty combination of white flowers, red stems, and green trifoliate leaves. The roots are medicinal, having in some degree the properties of *Ipecacuanha*.

Flowering in house No. 1 we find *Napoleona imperialis*, a plant of great structural interest to the botanist, and of interest to the general observer from its peculiar conformation and resemblance in miniature to *Rafflesia*, the peculiar Vine-parasite of Sumatra exhibited in the adjoining museum. *Rafflesia Arnoldi* is destitute of stem and leaves, the flower, of which it consists, reaching $3\frac{1}{2}$ feet across. Another interesting plant here in flower is *Spathicarpa platyspatha*, a dwarf herbaceous Aroid, the spadix of which is adnate to the flat spathe, so that the flowers appear as if borne along the midrib of a leaf.

In the Palm house we are delighted with a combination of foliage produced by climbers growing together. One of these is *Passiflora quadrangularis variegata*, the variegation of which is extremely good and constant; golden blotches are distributed over the leaf. The other is *Dioscorea vittata*, the leaves of which are reddish purple relieved with grey down the centre. These colours produce a very pleasing effect. It would be easy to suggest other associations of similar character. Thin-growing plants have often room among their branches for the

twining of a slender climber, and bare stems could often be clothed in this way. We may here suggest the attachment of certain epiphytes to the stems of living Tree Ferns. Shade-loving species of suitable habit are found among the Bromeliaceae. Some Orchids might be found to thrive, and a few trailing Gesneriaceae are quite at home in this position.

The newly-imported *Vanda cærulescens* var. *Boxalli* is now flowering in the Orchid house. It is not considered equal to the species, but is extremely pretty, all being pure white with the exception of its blue lip. The showy Orchids of most attraction now in flower are *Phalænopsis Lüdemanniana*, *Aérides odoratum* and *multiflorum*, the nearly white-flowered *Oncidium pulchellum*, *O. leucochilum*, with spikes of great strength; *Barkeria Skinneri*, *Oncidium Krameri* and *Papilio*, and *Cypripedium Hookeri* and *superbissimum*.

The new *Begonia Frobeli* in the cool end of the T range is commencing to flower freely. It seems to have found less favour than it deserves, but here is quite ornamental, and takes a good position among the tuberous species. It is difficult to imagine why these have not been grown for exhibition, considering the gorgeous display they are capable of producing with but little trouble.

In the next house are many beautiful examples of Gesneriaceae, inclusive of the genera *Achimenes*, *Gloxinia*, *Biglandularia*, *Gesnera*, *Sheeria*, *Tydaea*, and others, few only of which are novel; but it is difficult not to mention their value as a class for the greenhouse in summer, a time when houses are often empty or nearly so. These are an important feature in the establishment of L. Van Houtte at Ghent, but in this country at least meet with far too little appreciation. A representative set would be highly attractive at the summer and autumn flower shows.

Roella ciliata is extremely pretty in the conservatory, and to which we draw attention from its great beauty and rarity. It is a small evergreen shrub with slender stems, producing large bell-shaped blue flowers. It was introduced from the Cape more than one hundred years ago.

AMONG THE ROSES AT WOODLANDS.

To obtain a clear idea of the relative value of our best Roses it is necessary to see them growing side by side, not planted singly but in considerable numbers of each sort, so that one may not be misled by individual peculiarities, of which there is an undoubted risk when a single plant only of each variety is before one, as is usually the case in private gardens. It is true that such exhibitions of Roses as the National afford us a sight of picked blooms of our best sorts in such a guise as we unfortunately but too often see them only in a prize stand; yet I much fear that these noble examples of skilful culture convey no very just or fair conception to the mind of the ordinary practitioner of their appearance when not enjoying the special advantages of high culture and most careful tending, or, what is more to the point, of their value or otherwise for the embellishment of a garden. Not that I wish to say one word in disparagement of Rose shows, for our national flower is worthy of all honour, and, moreover, such shows are most useful in a variety of ways, such as in bringing new and worthy varieties prominently before the public, testing the merits of new sorts with old, affording Rose-growers an opportunity for an interchange of ideas, promoting social intercourse in its most innocent genial form, and above all in tending to popularise Roses and Rose culture.

Acting upon the idea set forth in my first sentence I went last week to inspect the Roses of Messrs. William Wood & Son in their Woodlands Nursery at Maresfield near Uckfield; and under the courteous guidance of the head of the firm, Mr. Charles Wood, and his youngest son, I went through the whole of their Roses, comprising I suppose all the varieties really worth growing, every one of which was to be seen by the hundred, perhaps I should be safe to say by the thousand, for in the open air they extend over many acres, and under glass they fill house after house and range after range, affording one such a sight of standards, half-standards, and dwarfs, of Roses in pots, as I will very frankly own I have never seen before, and in my experience of nurseries and gardens has been somewhat extensive. It will therefore be understood that I had a rare opportunity of seeing Roses new and old, good and indifferent, under what may be fairly claimed as the best possible conditions for forming a reliable opinion of their worth.

Maréchal Niel and Gloire de Dijon are undoubtedly our two most popular Roses, as was clearly shown by the immense

numbers of both which were flourishing in rude health and in every form from dwarfs to standards. Messrs. Wood consider that The Garland, a hybrid climber sent out by them many years ago, makes quite the best stock for Maréchal Niel, tending materially to promote that free strong growth for which "The Marshal" is so remarkable when bud and stock agree. This is an important matter, as although I have a splendid tree of it some 20 feet high on the common Briar, others have not done so well, and some have failed outright.

Of other sorts grown in very large quantities—a sure indication of popularity—La France still holds a prominent place as one of the very best pink sorts, as do the rich crimson Duke of Edinburgh and the lovely white Boule de Neige, always good, but occasionally giving us a flower that is the very perfection of form and purity of colour. I was glad to find that John Hopper, too, continues to hold a high position. I suppose we have nothing more beautiful among Roses, or any flowers, than an opening bud of John Hopper with the recurved petals just showing that rosy crimson, or rather pink, tinge which is so charming. Moss Roses are, of course, grown extensively, the old White Bath being more vigorous than I have before seen it. A still more vigorous white Moss is Reine Blanche, very hardy, beautiful in bud, and expanding into large flowers. This is an excellent sort, which everyone ought to grow by the dozen, for we never can obtain enough of it for mixing with other cut flowers.

Reverting now to my notes of the best sorts, a new one named Abel Carrière first claims notice. It has large flowers, very full petalled, of perfect form; is glowing crimson in colour, and is in every respect worthy of Messrs. Wood's description as a "superb new Rose." In Madame Prosper Langier we have another new one with magnificent flowers, very large and full, and of a lovely soft shade of carmine. Madame la Baronne de Medeni is also new in colour. It is pink shaded with violet; it is very full and of perfect form. Another variety of 1876 is named Rosa alba—Pompon blanc parfait, and answers perfectly to the catalogue description:—"Flowers small and of exquisite form, colour pale flesh passing to pure white, a charming miniature Rose," to which I may add that it forms a pretty little bush such as one admires in a border or bed. Dingé Conard as I saw it appeared quite worthy of being termed "one of the finest new Roses of the season;" its petals are of great size, and the colour a brilliant crimson. Olga Marix has charming white flowers, cupped and with elegant petals. It is a valuable sort. Catherine Bonnard of the Hybrid China section has brilliant crimson flowers and is very striking. It is a new variety, and is considered very suitable for pillars. Sultan of Zanzibar is a good new Rose, remarkable for its colour—a deep crimson, or, as the catalogues say, blackish maroon. Panachée Langroise is a very distinct variety with deep flesh-coloured mottled flowers, which tell well among other varieties. Of older Roses Marguerite de St. Amand was as usual most lovely with its abundant bold bright pink flowers. Abel Grand was also very fine; like John Hopper, its expanding flowers are so charming that we should value it for them alone when in that stage, even if they were not so perfect when fully developed. François Michelin was very good; it has lovely deep pink flowers, very large and full. Paul Neron was of course conspicuous, its strong healthy growth and immense flowers never failing to attract attention. Large quantities of it are grown, but it must be termed somewhat coarse and vulgar when fully expanded. Felix Genaro was grown in quantity, and its flowers were certainly very fine. It has now been under cultivation for a good many years, and there has been frequent discussion as to its merits. I have grown it and have not liked it, but after seeing it so perfect as it was at Woodlands I can understand why some should term it a good Rose and some a bad one, for it is evidently much influenced by soil and situation. Bessie Johnson was very good, with large full flowers of a charming delicate pink shade and very sweet. Marquise de Castellane was in splendid condition, but then I have never seen it otherwise; it is undoubtedly one of our best Roses. Abbé Bramerel has deep rich crimson flowers, and is a very striking variety.

Tea Roses, though grown in such large numbers being mostly in pots, were past their best, but I was able to see and admire the crimson-flowered Duchess of Edinburgh, a distinct and valuable acquisition to this class, as is also Cheshunt Hybrid, of which there was a goodly number of standards in the open nursery. Both are vigorous growers, and both are indispensable. They will prove of especial value for clothing buildings of light-coloured stone or stucco, as well as for

mixing with the more numerous shades of white and yellow Roses.

As a curiosity among Roses I may mention an introduction from Japan called *Rosa rubiginosa Regeliana*. It has clusters of large single crimson flowers, has a dense clothing of curious deep green foliage; the stem is thickly set with thorns, altogether forming a plant of singular appearance.

I have thus noted a few, and only a few, of the many sorts of Roses grown at Woodlands. I would fain dwell upon some others, but as that may not be now I may appropriately conclude by congratulating, not Messrs. Wood alone, but Rose-growers generally upon the excellent condition of the whole of the Woodlands Roses; for Woodlands is the source from whence many nurserymen draw their supplies.—EDWARD LUCK-HURST.

WIMBLEDON HORTICULTURAL SOCIETY'S ANNUAL SHOW.

PARK HOUSE, Wimbledon Park, the residence of Mrs. Evans, was the place selected by the Committee of this Society to hold their fifth annual Exhibition, an exhibition worthy of the place and neighbourhood. The schedule consisted of 120 classes in three divisions—gardeners, amateurs, and cottagers. The cottagers came out in great force, but the amateurs were much less numerous. We hope that another season they will take courage and do honour to the Society which takes the trouble to offer prizes for their produce. Division 1 brought out some very good productions.

Class 1 was open to all comers for six stove and greenhouse plants in flower. Mr. Smith, gardener to J. C. Joad, Esq., was placed first with a very fresh collection; Mr. Moorman, gardener to the Misses Christy, second; and Mr. Jordan, gardener to J. Boustead, Esq., third. Mr. Smith's were the smallest plants, but exceedingly fresh and well flowered, and included a very fine *Oncidium sphacelatum* and *Cattleya Mossiae*. The second-prize collection contained amongst others very fine and well-bloomed plants of *Clerodendron Balfourii* and *Stephanotis floribunda*. In the class for six stove and greenhouse plants in or out of flower Mr. Smith was again first, Mr. Jordan second, and Mr. Moorman third. The first-prize collection contained a very fine and beautiful-coloured plant of *Croton Johannis*, and the second a very fine plant of *Cocos Weddelliana*. For four stove and greenhouse plants in or out of flower Mr. Bridger, gardener to F. B. Thomas, Esq., was awarded the first prize; Mr. Bentley, gardener to Sir Thomas Gabriel, the second; and Mr. Stratton, gardener to Miss Forbes, the third. Six miscellaneous plants in 9-inch pots brought a strong competition, and Mr. Jordan, Mr. Smith, and Mr. S. Chapman, gardener to R. Macabe, Esq., divided the honours in the order named. Mr. Jordan's plants were *Dracenas amabilis* and *Youngi*, *Pandanus Veitchii* and *Vandermerschii*, *Demonorops fissus*, and *Aphelexis macrantha purpurea*, all excellent and well-grown plants for such small-sized pots. In the class for six and four exotic Ferns there was also very keen competition, Mr. Jordan being placed first in the class for six plants for good examples of *Davallia Mooreana*, *Neottopteris nidus*, *Gymnogramma chrysophylla*, and *Adiantum farleyense*, *concinnum latum* and *cuneatum*. Mr. Smith was placed second and Mr. Bentley third for good collections; and in the class for four plants Mr. S. Chapman, Mr. Lyne, and Mr. Curtis, gardener to — Barlow, Esq., were first, second, and third respectively.

Fuchsias were exhibited extensively, and seldom have we seen finer plants, most of them being large and well bloomed. Messrs. Lyne, Jordan, Moorman, Roser, and Stratton were awarded the chief honours. Scarlet or Zonal Geraniums were good. Mr. Roser was in his usual place with fine examples of *Matilda*, *Charles Burrows*, *Caxton*, *Mrs. Tait*, *The Shah*, and *Harry King*. Mr. Lyne was placed second; the other winners were Mr. W. Mayer, Mr. Bentley, and Mr. Chapman, who all showed very creditably. *Achimenes* came from Mr. Bentley and Mr. Lyne, who were awarded the first and second prizes respectively for six plants; and in the class for three plants Mr. S. Chapman was awarded the first prize.

Caladiums were extremely fine, more especially those exhibited by Mr. Jordan, to whom the first prize was unhesitatingly awarded for grand examples of *Belleymei*, *Triomphe de l'Exposition*, *Meyerbeer*, *Excellent*, *Prince Albert Edward*, and *Adolphe de Nassau*. Mr. Stratton also exhibited a very good six, and received the second prize. In the class for three Mr. Bridger, Mr. Cole, and Mr. Lyne were awarded the honours in the order named.

Passing some minor classes we arrive at the Roses. In the class for twenty-four blooms Mr. Moorman was a good first; Mr. Fanning second; and Mr. Elliott, gardener to the Rev. J. M. Brackenbury, third. It would be well for the Society to alter the wording of the schedule another year by substituting the word "trusses" for blooms; for the want of a definite term a good collection which would have been placed second was disqualified.

Other prize-winners had a narrow escape; but while the Judges were quick, and properly so, to discern the terms of the schedule in one respect, they did not recognise the important condition that the varieties were to be distinct. In the second-prize stand we noticed two Roses named *Duke of Wellington* when the stand did not contain one of that variety, and two *Paul Verdier*, while the name of *Centifolia Rosea* was attached to a scarlet Rose. In the gardeners' classes for twelve blooms Mr. Kent was placed first, Mr. Tucker second, and Mr. Smith third; and for twelve blooms (amateurs) Mr. W. Scott, New Wimbledon, a most ardent lover and good grower of Roses, was first. This collection was decidedly the best in the Show. Other exhibitors of Roses were Mr. Mayer, Mr. Brown, and Mr. Marsh-Stiles.

Fruit was not very extensively shown, but was very good, especially the Strawberries. The first prize for a single dish was awarded to Mr. Jordan, who exhibited *Her Majesty*, a very large and good-flavoured Strawberry. The other prizetakers were Mr. Chapman and Mr. Cole. Mr. Kent was first for a collection of fruit, and shared the honours with Mr. Burden for both Peaches and Nectarines, and Mr. Lee and Mr. Fanning for Grapes.

Vegetables were well to the front. Mr. Lyne, Mr. Jordan, and Mr. Kent were first, second, and third respectively in the class for twelve sorts; and Mr. Moorman, Mr. Chapman, and Mr. Bridger in the same order for six sorts. The cottagers' productions were both extensive and very good.

Special prizes were offered by Mrs. and Miss Reeves for dinner-table plants. In the class for twelve plants Mr. Jordan was awarded the first prize with graceful examples of *Cocos Weddelliana*, *Areca lutescens*, *Demonorops fissus*, *Aralias Veitchii* and *elegantissima*; *Dracenas terminalis*, *Cooperi*, and *gracilis*; *Pandanus Veitchii*, *Annassa sativa variegata*, and *Croton angustifolium*. Mr. Smith was placed second, and Mr. Lyne third. In the class for six plants Mr. Chapman, Mr. Cole, and Mr. Bridger were placed in the order named. There was great competition in these classes, and the plants exhibited were excellent.

TWO-DAYS ROSE SHOWS.

The neck of these has been pretty well broken; but there is one offender in the metropolis—the Aquarium, and it is to be hoped that all the members of the National Rose Society will remember that they are pledged to do all in their power to discountenance two-days Rose shows. Some intend carrying this out to the letter, and it will hardly be fair for other members to take advantage of their consistency and secure prizes which they might possibly not have obtained had those who held back for this reason competed.—A LOVER OF CONSISTENCY.

NOTES ON VILLA AND SUBURBAN GARDENING.

ADVANTAGE should be taken of every shower to plant out Brussels Sprouts, Savoys, Kale, Broccoli, Coleworts, &c., into their permanent quarters. Those useful vegetables, so necessary for the winter supply, cannot become established too early if both quantity and quality are wished for. The greatest trouble to us, and doubtless to many others, is to have space at command to plant the above-named crops when opportunity offers; therefore clear the ground of all early crops as soon as they are over, such as Peas, Cauliflowers, &c. We gathered our first Peas on the 19th of June, but the crop was not heavy; we therefore cleared them off at once. William I. Peas have podded abundantly and were very fine. They are now over, and our late successions are not looking well. Such sorts as *Champion* of England and *No Plus Ultra* are far beneath their ordinary heights. The ungenial spring, followed by real summer weather, has caused them to flower prematurely. In order to secure a late autumn supply we shall sow a few more rows of early sorts—*Advancer* and *William I*. It will only be a chance crop, and the result will depend materially on the season. The early-sown *Scarlet Runners* and *Dwarf French Beans* are looking well, and there is yet time to make other sowings for late supplies. Asparagus beds must be kept free from weeds, and no more heads must be cut, or the supply of next year will be weakened. Early-sown Turnips have in the majority of cases "bolted," or run to flower before attaining any size. Other sowings should be made. *Veitch's Red Globe* is a very useful sort to sow after this date. Thin-out advancing crops of Turnips, Onions, Carrots, and Beet if not already done. Celery where required should be planted out for an early and main supply. The *Incomparable White* is one of the best for early use, and *Major Clarke's Red* is a good sort to follow. Potatoes are looking well and promise to be good this season. They can be dug as wanted, and the ground planted again with winter vegetables. If a sowing of Parsley is made now on a south or warm border and not picked during the autumn it will, if not crowded, give an abundant supply throughout the winter. A sowing of the *Rosette Colewort* ought also to be made, the plants from which will be useful for filling spare ground as it becomes cleared.

In the flower garden the work will consist principally in removing dead flowers, pegging down and stopping all such plants that are required to cover the ground rapidly, and occasionally mowing and clipping the edges. Roses, Clematises, Wistarias, and other plants covering walls have grown very rapidly, and require thinning and nailing in their places. Clematis lanuginosa and lanuginosa alba are blooming very freely in many places, and C. Jackmanni is promising a fine display of flowers. The small sweet-scented white Clematis flammula is very pretty, and is a fast grower; it ought to be in every collection. Primulas and Cinerarias will now require pricking out of their seed pans, afterwards keeping them close and shaded for a few days. A frame facing the north is a very good position for them, and when well established they will be benefited by the lights being drawn off during mild nights. More seed may yet be sown of Cinerarias, Calceolarias, and Primulas. The seedlings will in all probability make useful little plants for spring decoration.

Chrysanthemums not already in their blooming pots must be repotted at once, for if neglected at this season and the roots become matted together and the tops stunted it will be impossible to have healthy specimens. A rich yet porous compost suits them. We generally pot ours in 9-inch pots if large blooms only are required; but for specimen plants we use 12-inch pots. Pegging, stopping, and tying must be duly attended to, to secure plants of good shape. If the tops of the shoots are made into cuttings and inserted at once and grown-on without allowing them to flag they will make useful little plants, which are often valuable for particular decorative purposes. Four to six cuttings in a 6-inch pot and there allowing them to remain to bloom is the best way of providing showy little plants.

Hedges of all kinds, such as Privet, Yew, Laurels, Holly, &c., will require clipping in order to retain their shape and make a close compact growth; but in cutting Yew and Laurel we prefer a common pruning knife. The Yew hedges are then greener, and Laurels have their leaves left perfect, which in all probability, if the shears were used, would be cut in half. Holly makes one of the finest of hedges, but to induce rapid growth they should not be clipped in their young state, except merely taking off a gross leader here and there to keep the top somewhat level. After they have been established six or seven years they may be cut into shape to form a complete hedge.—J. W. MOORMAN.

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

HARDY FRUIT GARDEN.

ALL the growths not required on the wall trees have been cut-back, and those that are wanted either to furnish the walls or supply fruiting wood have been secured to the walls. As far as practicable all fruit trees which have ripe fruit have been protected with nets. As usual the birds find out the weak places and carry away the best fruit, notwithstanding all precautions.

We have commenced layering the Strawberry runners, beginning with Black Prince and Keens' Seedling. Before this is printed the largest proportion of them will have been layered. Some growers have tried the system pursued at Loxford Hall of destroying the beds after once fruiting and replanting annually, and having failed they doubt whether the statements made in this Journal are correct. What object, we wonder, could be gained by stating what was not the fact in a case of this kind? The only object most gardeners can have in writing to periodicals specially devoted to their work is to diffuse useful practical information; and our experience, gained by a dozen years of practice, is that the only sure way of securing a crop of Strawberries on this soil is to plant every year. Our plants are now being layered in 60-sized pots—that is, pots about 3 inches in diameter inside measure. No drainage is placed in the pots, except a little moss or turfy peat over the apertures. Over this a pinch of soot is sprinkled to prevent the ingress of worms. The pots are then filled up with a compost of loam and decayed manure in the proportion of three to one. We always select runners from the plants that bear fruit. All barren plants are rejected. This is important, as many plants are to be found without fruit, and the progeny almost invariably is barren the following year. Such plants, moreover, always throw out the strongest runners. In our collection of more than a dozen varieties there is not a barren plant to be found. In two or three weeks at most after layering the plants should be cut away from the parent, and never at any time should they suffer by want of water, or in any way receive a check. The ground should be prepared for them as soon as a space can be cleared from other crops. This year we shall plant after Cauliflowers and Peas. It would be better if we could plant on ground that had been allowed to be fallow from a crop the previous autumn, but this we cannot do. Directly the other crops are cleared off the ground is trenched for the Strawberry plants. We generally have all the plants out by the last week in July, and as they are turned carefully out of the pots they do not feel the effects of removal. Red

spider is a desperate enemy to the young plants, and unless due precautions are taken the plants suffer severely. Another cause of failure may be from the plants remaining in the small pots until they are pot-bound. On one occasion we could not plant out until near the end of August owing to the ground being occupied by another crop. That season all the plants were potted in rich soil in 5-inch pots, and by the time the ground was ready the plants were large and in vigorous health. With many want of time may be urged for all this work. We must find time or our crops would be worthless. Runners for plants for fruiting in pots are prepared in the same way.

PINE HOUSES.

The suckers are ready for taking off and potting from those plants that are now fruiting. We have not a house ready, and will have to delay the work until we have. Pines in most establishments are now being crowded in a corner, or their cultivation being discontinued altogether. As a commercial speculation it will be difficult to make them pay for their cultivation, although there will always be a demand for a limited quantity of good English-grown fruit, especially of Queens. Many gentlemen and the nobility generally will prefer to see the fruit growing in their own gardens, even if it is not any more profitable to grow Pines than it is to cultivate dessert Oranges. Our own stock now comprises Queens principally with a very few Smooth-leaved Cayennes and Charlotte Rothschild. We manage with a very limited number of fruiting plants to cultivate them so that a succession may be obtained all the year round. In cold weather we have kept Smooth-leaved Cayenne a month in good condition. In less than two weeks the suckers will be potted and plunged in a brisk bottom heat. No heat is applied from the hot-water pipes at present, nor will it be necessary for a month longer. If there is any mealy bug in the establishment a careful look-out must be kept to prevent its getting on the Pines.

Fig and Orange Trees in Pots.—The Fig tree when grown in pots requires very different treatment from what is usually given to it when planted in a border under no restriction. It is not likely to grow too strongly confined to the limits of a 12-inch pot, and in such a pot a good-sized tree can be grown, and under good management it will produce a fair crop of fruit. Our Fig trees are potted in good turfy loam and decayed manure, and the potting ought to be performed annually. The trees also must be surface-dressed when they are making roots freely. This—with abundant supplies of water and thoroughly syringing the trees, especially the under sides of the leaves, to prevent red spider from attacking them—will secure good results.

Orange trees are very subject to be attacked by scale, and this pest clings to the branches and the leaves like limpets cling to the tide-washed rocks; it cannot be dislodged by the most furious syringing, nor is it easily poisoned by the use of washes however strong. Hard washing with a sponge and soapy water is the best way to eradicate it. It takes time to do this, but we have not found any other mode effectual.

GREENHOUSE AND CONSERVATORY.

In every department at present there is plenty of work to do. Even here, what with tying-out the growths of the plants and rearranging the stages as plants go rapidly out of bloom, much time is taken up. The secret of success here as in every other department is to have everything done at the right time. If a plant remains pot-bound week after week until the ball of roots is as hard as a cricket ball, it is not possible to pot it as it ought to be done, and the roots cannot be disentangled without causing great injury to the plants. Stopping the young growths just at the right time is a work of some importance: this work if neglected cannot by any after good management be remedied. The plants must also be freely exposed to light, and the air must play freely amongst the branches, although it is also an evil to allow the plants to be exposed to cutting winds.

Softwooded plants, such as Cinerarias, Calceolarias, Primulas, &c., do best in this neighbourhood if the pots are placed in a house facing north and sheltered by a wall a few feet higher than the glass at the highest part. The plants are potted-on as they require it, and especially must they be kept quite free from insect pests. An invasion of green fly very soon destroys the soft brittle leaves of either Calceolarias or Cinerarias; the latter are also much subject to the attacks of thrips. We generally flower the plants in 8-inch pots, and the potting material used is good turfy loam four parts, one part leaf soil, and one of decayed manure. If the plants are doing well they will soon cover the upper part of the pots with large succulent leaves. It is injurious to expose the plants to heavy rains, and it does harm to syringe them overhead.

FLORIST FLOWERS.

We would lift the Tulip roots if we could spare the time; probably they will be done by the end of this week. Next week will be a busy one with southern florists, as it is their national exhibition of one of the most prized of all florist flowers by the general public—viz., the Carnation and Picotee. The flowers at Loxford, if the weather should be warm, will be in about the right time. The Slough collection is not quite so early, but

then it is not necessary that the fourth part of Mr. Turner's flowers should be in to place him in a favourable position. At Larkhall Rise, Clapham, is to be seen the largest and choicest amateur's collection in the south, owned by E. S. Dodwell, Esq. No doubt this will also be about right, although its owner was some time ago rather anxious about having the flowers in at the time of the exhibition. Earwigs are a serious enemy to us, and we have to watch for them every night with the aid of a lamp. They eat the petals at the base, and one will spoil a bloom in a single night. The flowers should be exposed to the light until they are nearly expanded, afterwards it is necessary to shade them to prevent their being injured by sun or rain. Roses have flowered very freely with us this season, and the blooms have been of excellent quality. Pippings of Pinks have been inserted under glass in a shady position. The growth was rather too strong; we would much rather have taken it when it was younger and more succulent. Pansies are flowering most profusely and well. Hollyhocks and Dahlias must be attended to by having the growths trained to the sticks as they advance.—J. DOUGLAS.

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

HUMEA.—G. Walsh, Rockbeare Court, Exeter, wants some small plants of *Humeas*.

HYBRIDISING (G. B.).—We know of no good work on the subject. There is an excellent essay among Mr. Knight's horticultural papers.

PLUMS DEFORMED (Irish Subscriber).—They are destroyed by a parasitic fungus, the spores of which are wintered in the bark and soil probably. Scrub the stem and branches with brine. Pare off the soil in a circle extending beyond the circuit of the branches and burn it.

GRAPES SPOTTED (H. B.).—Your Grapes are attacked by the disease called "spot." It arises from a defective supply of sap. The roots require a supply of liquid manure, and more water probably; ventilate also sufficiently yet carefully.

LATE STRAWBERRY (H. C. P.).—Try the Elton.

COLEUS NOT COLOURED (R. H. P.).—We can only advise you to allow the roots of the plants to become pot-bound, yet affording plenty of water and growing the plants in the full sun. Coleuses are sportive, and some plants do not colour well. The best plan is to select the cuttings from the best coloured shoots.

SEEDLING COLEUS (E. R., York).—We think it sufficiently distinct to be worth growing.

PROPAGATING EUCHARIS (A. M. A.).—This is a very free-growing bulbous-rooted stove plant, and it increases at a very rapid rate. It is propagated by dividing the bulbs when they have increased too much for the size of the pot in which they are growing. Pot in turfy loam, a little leaf soil, and decayed manure, with sand added if the loam is of a clayey nature. The plants require considerable supplies of water when they are growing freely, and after blooming less water is required for about two months, when they may be started to grow again, and they will flower as freely as they did before their season of rest. The temperature best adapted to their wants is a minimum of 55° in winter and 65° during the summer months.

CHEAP ORCHIDS (Rev. A. K. C.).—Many of the finest species of Orchids are imported in large quantities at uncertain intervals, and after large importations they can be purchased at a cheap rate, and those who wish to purchase should put themselves into the hands of some of the large firms who import, asking them to advise them of any fresh importation. By watching the advertising columns of this Journal it will be seen that large importations are frequently sold at Stevens's rooms, Covent Garden. The trade growers do not send out the plants until they are established, but even then the choicest species may often be obtained at from 3s. 6d. to 7s. 6d. per plant. At Stevens's rooms they are sold in bundles as imported, and occasionally at very cheap rates. It is quite another thing if a gentleman wishes to form a collection of Orchids and orders them from the nursery, irrespective of the stock in hand; he may require to pay a couple of guineas for a plant that might have been purchased the previous season for three half-crowns. The reason is very simple—the stock has been nearly sold out, and there are no fresh importations expected just at that time.

SEEDLING FUCHSIA (A. B.).—The flowers are fine, and so peculiar that we think it deserves cultivation. The other specimen we think is only a variety of the common Ribbon Grass, but cannot be certain without seeing a spike of its flowers.

TRANSPLANTING LARGE YUCCA AND ESCALLONIA (C. B.).—If you are careful to have a ball of earth undisturbed about the roots you may remove the plants safely.

PARTITIONING GREENHOUSE (A Constant Reader).—It will answer to partition off part of your house, which including the pipes will be a warm house, having lights to open, so as to allow the warm air to pass into the cold division in case of necessity in severe weather. It will be "necessary to partition off under the stage as well as above it," but this part may be of wood or other opaque material, whilst above the stage should be glass.

IMPREGNATING CUCUMBERS (Idem).—It is quite unnecessary unless you require seed—the fruit swells just as well without impregnation as with it. If seed be not wanted the fruit is impaired for use by the formation of seed.

VINE UNFRUITFUL (Idem).—We should say your Vine is unfruitful from the wood of last year being imperfectly ripened, but in the absence of data we are unable to say with certainty. Keep the laterals well stopped and the principal shoots rather thin, fully exposing the foliage to light and air.

THINNING BRANCHES OF FOREST TREES (J. B.).—All those you mention may have their branches moderately thinned now, but if large or numerous

branches have to be removed, mark them now and cut them off at the end of October.

PELARGONIUM SEEDLINGS (C. Bilson).—All the petals had fallen. We cannot select from the legion of new varieties. Go to a flower show and select those you admire. They can be bought of the florists.

ROCKERY (Mrs. W. H.).—Any of the chief florists in London could supply the plants.

DOUBLE GERANIUMS AND FUCHSIAS (T. M., Huddersfield).—Six good double Geraniums are—Wonderful, scarlet; Madame Thibaut, magenta rose; Madame Emilio Ballet, white; Louis Boutard, salmon; Augusta Villamora, orange scarlet; and Député Sadize, purplish scarlet. Six large double Fuchsias are Mrs. H. Cannell, Avalanche, Sir Garnet Wolseley, Miss Lucy Finnis, Marksman, and, having the largest flowers of all, Champion of the World.

PIPING REQUIRED FOR SPAN-ROOFED HOUSE (Crust).—You do not give the height of the house, but we conclude from the width that it will be about 9 feet. About 44 feet of 4-inch piping will be required to maintain a greenhouse temperature, and a length of 90 feet to secure stove heat.

WORMS (R. T. F.).—We know of no trap for them. A poker thrust into the ground and moved backwards and forwards will bring them out of their holes.

ANTS (M. E. P.).—You may drive them away by sprinkling Scotch snuff over their haunts, and repeating the sprinkling until they depart permanently.

NAMES OF PLANTS (P. M.).—A variety of *Aspidium aculeatum*. (Mrs. Holmes).—1, *Iris sibirica*; 2, *Arnica montana*; 3 and 4, *Astrantia major*; 5, *Veronica Teucrium*. (Juvenile).—*Metrosideros tomentosa*. (A. C. B.).—*Cornus sanguinea*. (G. O. S.).—1, *Geranium striatum*; 2, *Erigeron bellidifolium*; 3, A species of *Sidalcea*; 4, *Ranunculus acris*. (W. L. L. H.).—1, *Helichrysum marginatum*; 2, A species of *Heuchera*. (F. Taylor).—*Stanhepa tigrina*. (W. D. H.).—*Spiraea Filipendula*, Dropwort. (W. D. H.).—*Spiraea Filipendula flore-pleno*. (B. Smyth).—*Tilia europaea*, *l. laiciatis*. (W. H. Manser).—We cannot name the Rose, but we think you have been misinformed as to its origin. Make further inquiries on that point and inform us of the result of them. (R. B. L.).—We regret that we cannot name the Rose.

POULTRY, BEE, AND PIGEON CHRONICLE.

A BATCH OF SCHEDULES.—PART 1.

THEY certainly are coming on thickly. We never remember a longer list of forthcoming meetings, and nearly every schedule which comes to hand has some peculiarity. It is either fearfully behind the times, or gives some class which is not commonly found, or has a preposterous entrance fee, or holds out some bait to trap unwary exhibitors. We have a very large bundle before us; some great cumbrous sheets, others elegant little pamphlets with pink or green covers, on which are engraved a happy farmyard family or an impossible-looking Cochin, or a Poland with a wooden sort of appendage upon its head to represent a crest.

Picking out some of the best got-up of these schedules we find a few facts worthy of note, and in mentioning them we do so more to show any peculiarities than to give a general sort of *rechauffé* of the whole. We will take them in no order, but select from a batch which the last fortnight's post has brought to us.

On the top we find, in a cream-coloured cover, the schedule of the first meeting at Cardiff. To be held in the Drill Hall, when the Rev. G. F. Hodson will award the prizes. There are fifteen silver cups or pieces of plate, and we find one of them is for Sultans. This is something novel, and we wish the new venture much success, and hope it may tend to finally prove whether the breed should be bearded or not. Black Cochins here have a class, and Malays two classes, both of which facts their breeders should note. Next in order comes Whitechurch. This Exhibition is to be held in connection with the agricultural show, and we find on the Committee of five three such well-known names as Messrs. Tadman, Darby, and Etches. The Judges again are announced—viz., Messrs. Dixon and Lane, the latter for Game and Bantams. There is one chicken class, but the other classes are all "for any age." We wonder Mr. Darby allowed the Polands to go to the Variety class.

On the same days as the last-named comes the Cambridge-shire Society's meeting at Ely, where the wife or daughter of a tenant farmer in the said county has only the opportunity on this occasion of winning Lady Elizabeth Adeane's annual donation. No Judge's name is announced, but we imagine, all well, we shall find Mr. Hewitt here. In the schedule nothing calls for much comment. Leghorns have a class, but the rest of the breeds are not well subdivided at all. On July 19th there is to be a Show at Bedford. The schedule is in many ways very fair. Game have four classes, one of them being for single cocks. White Cochins have also a class, and there is a £5 5s. cup for the best pen in the Show. Mr. Tegetmeier is to judge. There are also some good local prizes with another £5 5s. cup. Next the schedule for Ormskirk is good. There are prizes for chickens and adults. At this time of the year, and for the next two or three months the awards in old birds are mostly mere lotteries, for the birds in the best plumage generally win before others in ragged feather of however much merit when in full condition they may be. Here there are two classes for White Dorkings, which are in honour of Miss Fairhurst we should imagine. We

are surprised to find at so important a north country show no class for Black Hamburgs. Game and the Asiatics are well provided for. The Pigeon classes are very numerous, but a "note" says "no third prize will be awarded unless there are five entries." Oswestry once more puts forth its annual *menu*, and really in mere charity some Salopian fancier should try and make this Society wiser in its generation. The schedule has been the same for years, and in many classes the classification is positively ludicrous. Class 14 is for Game Bantam chickens, while there is nothing in the schedule whatever to prevent Game Bantams winning again in Class 15. White Cochins, too, are classified with Buffs, while Houdans come after any other variety not mentioned, as if they were something quite distinct from what has preceded them.

It is refreshing to turn to Hereford, where we find well-known fanciers on the Committee and the prizes good. There are two point cups here, where a cup bird counts ten, and so on in gradation till a commended bird gets the modest number of one. There are also ten others besides these two point cups. The prizes are good and the classes well classified on the whole. There are two chicken classes, but we are told that chickens are also eligible in all the other classes. The entry fees are low, but we can find no Judges' names. Rule 20 states, "Exhibitors will have a ticket of admission to any part of the Society's show-yard." The next prospectus in our pile is of a humbler nature, but none the less interesting; it is that of the Warminster Cottage Gardeners' Society. Under the able Secretary, Mr. Hinton, the schedule is much improved both in poultry and in Pigeons, and many chicken classes are added; pens, too, this year will be provided, the Judge remaining as in former years, and being Mr. Sainsbury of Devizes. Another nice little local show follows in its wake, that of Malton and district in Yorkshire, where we find among many useful classes one for Silkies. We notice it with undisguised pleasure, and beg all exhibitors of the breed to patronise this attempt to popularise a most elegant and useful variety. The classification does the Committee credit, and though the prizes are small we venture to think the entries will be large.

Chesterfield is its successor in our packet, and it is but meagre. The name of the Judge (Mr. Teebay) will have more power in making entries than the classification we should think. On the Committee is Dr. Holmes, who is, we believe, an energetic poultry fancier, and will probably see to the welfare of the specimens. Malays have a class, and there are five pieces of plate to be awarded. The next on the file is very modest, but we mention it as being a means by which the clergy and squires of country parishes can promote the love of poultry in their villages. From actual experience we know the love of flowers, birds, and animals keeps big lads and young men in their homes instead of standing at road corners or frequenting places even less worthy of resort. This little list has only five classes, and our great breeders will perhaps sneer at it; but we wish the Rev. E. N. Thwaites of Fisherton near Salisbury much success, and feel sure the same reward for good will attend this new venture of his as has ever attended all those other manifold attempts for the good of his parish, and we beg others to try and do as he has done.

We end Part I of our batch with just a line or two upon two shows in prospective—viz., Ramsgate and Ipswich. For the former we learn good and competent Judges have been engaged, and the prizes are to be most liberal—namely, five in each class of the value of 42s., 30s., 20s., 15s., and 5s., while the entry fee is only 5s. per pen. We do not think such a schedule has ever been before attempted. And then lastly one word for Ipswich. We hear from our worthy friend, the Stoke Park manager, to say that he has consented to be the Secretary, and telling us of lots of dainties which he is providing for the poultry world's benefit. Among them the Show is to last but two days, none but single birds are to be shown, and the judging is to be performed by amateurs, one of whom is the Stowmarket hero for Game and Game Bantams. We wish Mr. Wragg much success, and hope many fanciers will help him with donations or cups to build up under such an excellent leader a show worthy of the breeders of the eastern counties. This schedule will, we hope, be fully described in our second "batch," with many others of much interest.—W.

CHELMSFORD POULTRY SHOW.

THIS was held in connection with the Essex Agricultural Society's Show on the 4th and 5th inst., when the following prizes were awarded.

POULTRY.—DORINGS.—Coloured.—Cock.—1 and Cup, F. Parlett. 2, H. Lingwood. 3, H. Allen. Hen.—1, Cup, and 3, Rev. H. R. Peel. 2, F. Parlett. Any other variety.—Cock.—1 and Cup, O. E. Cresswell. Hen.—1 and Cup, O. E. Cresswell. 3, E. Snell. COCHINS.—Buff or Cinnamon.—Cock.—1 and Cup, S. R. Harris. 2, Lady Gwydyr. 3, Mrs. A. Tindall. Hen.—1 and Cup, C. M. Stackings. 2, A. E. W. Darby. 3, Mrs. A. Tindall. Any other colour.—Cock.—1, Cup, and 3, Mrs. A. Tindall. 2, F. H. Jennings. Hen.—1, Cup, and 2, Mrs. A. Tindall. 3, A. Beaumont. BRAHMAS.—Dark.—Cock.—1, Horace Lingwood. 2, Mrs. A. Tindall. 3, Lady Gwydyr. Hen.—1, Cup, and 3, Horace Lingwood. 2, E. Pritchard. Light.—Cock.—1 and Cup, Horace Lingwood. 2, F. Haines. 3, Mrs. A. Tindall. Hen.—1 and Cup, Horace Lingwood. 2 and 3, F. Haines. GAME.—Black or

Brown Red.—Cock.—2, S. Matthews. 3, C. Rowley. Hen.—1 and Cup, S. Matthews. 2, E. Pettitt. Any other colour.—Cock.—1 and Cup, S. Matthews. 2, H. W. Peck. 3, W. Jefferies. Hen.—1 and Cup, S. Matthews. 2, T. Docwra. 3, E. Winwood. HAMBURGS.—Gold and Silver-pencilled.—1, W. K. Tickner. 2 and 3, E. Snell. Gold and Silver-spangled.—1, J. Rawnsley. 2, J. Long. FRENCH.—2, E. Snell. ANY OTHER VARIETY.—1, T. Norwood. 2, J. Long. 3, G. W. Boothby. BANTAMS.—Game.—1, W. Adams. Any other variety.—1, L. J. Morrell. 2, Ludlow & Backham. SELLING CLASSES.—Cock or Drake.—1, Duchess of Hamilton. 2, S. W. Hallam. 3, W. Tippler. Hens or Ducks.—1, Mrs. A. Tindall. 2, Rev. H. R. Peel. 3, T. Docwra. COTTAGERS' CLASS.—1, R. Brown. 2, T. Pitts. 3, J. Burrell. DUCKS.—Aylesbury.—1, J. Hedges. 2 and 3, E. Snell. Rouen.—1, H. Dowsett. 2, E. Snell. 3, F. Parlett. GESE.—1, J. Everett. 2, E. Snell. 3, W. Tippler. TURKEYS.—1, Mrs. Mayhew. 2, E. Snell. 3, W. Tippler.

BARNSTAPLE POULTRY SHOW.

THIS Show was held in the Market-house, and the entries in many classes were large. Mr. Dixon of Bradford made the awards, which were favourably received. *Malays* with seventeen pens opened the catalogue. Many of the birds were rapidly losing their feathers. We liked the first pair very much, and the second contained a well-made pair of birds standing well on their legs. The first Black Red cock was a stylish bird, with a good hen as companion; the second, too, were of good colour and shape. *Brahmas* had one class of fourteen pens, the Dark being perhaps the best in quality. *Cochins*, again, were all classified together. We saw some good Buffs and a pair of Whites. *Dorkings* were rather out of feather. We liked the colour of Mrs. Radcliffe's third-prize cock; he appeared, however a little leggy. The *Hamburgs* mustered well. The first Pencilled (Barter) was a good hen, her markings clear and distinct. In the Spangles we thought the Silvers the best. The first hen had good spangles, and the cock was very fair in sickles; but Mr. Harris won with his least esteemed pen we suppose, for his winners were in at 90s., while £10 was the price on his second-prize pen. *French* made only half a dozen pens, among which we saw an excellent pen of Crève-Cœurs. An immense class there was of *Minorcas* and *Andalusians*, no less than a score of pens. The first-named showed up in the greatest numbers, and the winning birds were apparently well selected. *Spanish* mustered only seven pens, where a Cornish fancier for once was victorious over celebrated Bristol. The winners were fairly smooth in face and good in combs. The Variety class was truly a beautiful collection. There were seventeen pens, and nearly all of merit. The first went to fine White-crested Polands. The cock was, we think, the first Palace bird, with a young hen which we have never seen before. There were other good Polands in the class, Black Hamburgs, &c., and though the Judge had four prizes to award we think he must have had plenty to do to choose them wisely. *Game Bantams* made also a score of pens. The winning birds were certainly smart in heads and carriage, but we fancy there has been of late a great inclination to coarseness and to too large size in the breed. Many birds seem to be losing that gracefulness which we used to see more often. In the Variety Bantam class of ten pens the Black Rose-combs were excellent and the winners well placed. The *Turkeys* were only three pens, and *Geese* four. The first pair of *Turkeys* (Heal) were entered only for 60s., and were of no very great merit. *Ducks* were all classed together. We noticed a fairly good pen or two of Aylesburys. Two large single-bird Selling classes ended the list, where over seventy pens, in value from 20s. to 12s. 6d. per pen, competed for half a dozen prizes. We daresay many pens were claimed, but such classes can only depreciate the value of fancy poultry, and do but little good.

POULTRY.—MALAYS.—1, T. Joint. 2, T. Leecher. 3, A. S. Richards. GAME.—Black-breasted Red.—1, J. Westcott. 2, Rev. A. Cruwys. 3, E. Ray. Any other variety.—1, J. Westcott. 2, Rev. A. Cruwys. 3, G. Bickham. BRAHMAS.—1, Mrs. Radcliffe. 2, H. Station. 3, T. Fry. COCHINS.—1 and 2, C. Bloodworth. 3, J. Buckmaster. DORINGS.—1, J. H. Nicholls. 2, J. Croote, jun. 3, Mrs. Radcliffe. HAMBURGS.—Gold and Silver-pencilled.—1 and 2, N. Barter. 3, R. Pettie. Gold and Silver-spangled.—1 and 2, S. R. Harris. 3, J. Buckmaster. FRENCH FOWLS.—1, C. M. Saunders. 2 and 3, W. Hamlyn. MINORCAS AND ANDALUSIANS.—1, J. Harwood. 2, J. Croote, jun. SPANISH.—1, J. Burt. 2, J. Hunt. 3, J. Bassett. ANY OTHER VARIETY EXCEPT BANTAMS.—1, T. Norwood. 2, C. M. Saunders. 3, H. D. Nightingale. 4, J. Fullwood. BANTAMS.—Game.—1, F. C. Temple. 2, F. Maitland. 3, Joint & Son. Any other variety.—1 and 3, T. F. Phelps. 2, Morris & Cameron. SELLING CLASSES.—Cock.—1, J. C. Huxtable. 2, J. Bassett. 3, J. Westcott. Hen or Pullet.—1, G. Bickham, jun. 2, J. Buckmaster. 3, E. Mearles. TURKEYS.—1, J. Heal.

VISIT TO MR. H. M. MAYNARD'S PIGEONS,

HOLMWOOD, RYDE, ISLE OF WIGHT.

PART I.

THE name of Mr. Maynard has during the last few years steadily advanced in the prize lists of our great shows. Taking up the fancy some ten years since he attached himself to Carriers especially, then he took up Barbs as a second horse, while other Pigeons have followed as favourites with him. Success at small shows led, as usual with a persevering fancier, to at first little notices and minor prizes at large exhibitions; then, as now, to many first and second prizes at the great shows. At this present time the name of Maynard is well known to all Pigeon fanciers, and is a terror to exhibitors. Maynard's birds are looked out for at our shows and are objects of much notice and admiration. As a conclusive proof of Mr. Maynard's success with Carriers, I

may state what is well known in the fancy, that he sold his champion Carrier cock recently for £100, and was rather sorry to let him go; while he sold a pair for £180. But to proceed in order. I had for some time past known that at Holmwood there was a stud of four hundred birds exclusive of feeders, of which latter it may be remarked Mr. Maynard makes but little use. I was naturally anxious to see such a stock of birds. However frequently one may see a fancier's birds at shows, there is always an additional pleasure in seeing them in their own lofts where they were reared and where they live, to notice the style of lofts, what their arrangements, what plans are found to succeed, what nest-boxes used, &c.

Mr. Maynard lives in the Isle of Wight, not a convenient place for an exhibitor when one remembers that shows take place in the winter, and birds must have a sea passage as well as a land journey. I never wonder that so many exhibitors are in the north and manufacturing districts, for there is such a network of railways. It is only just to have the birds carried to the near station, and away they go to this show and to that show. Then still less do I wonder that there are so many exhibitors near London, because Pigeon-fancying requires but little room, though the birds are better for much room; and then London shows are now the shows, and probably, remembering the convenience of the Aquarium, will become more than ever the shows for the upper-class and larger-stocked fancier. But the Isle of Wight is not only distant, but there is the stormy Solent, often very stormy in winter, to be crossed by the tender high-class birds. Genuine must that fancier's love of birds be to face such a drawback. However, the climate of the island is all that can be wished.

Last Crystal Palace Show Mr. Maynard kindly invited me to come and see his stock. More than once I had been on the point of going, but was hindered. After all it was well I had been prevented, for even May was this year more than usual "a fine month spoiled by east wind," and as to the poet's May, that of poor deluded Thomson, we know another and a better poet, Tom Hood, said of Thomson's "gentle spring, ethereal mildness," "there's no such season." But June, leafy June, is all happily different. It was a glorious day when I started for the Isle of Wight. One felt thankful to live to see and feel such weather. Along the line, *via* Salisbury, the hay harvest was in progress, then further by damp water-meadows where the Heron was standing sentinel-like and demure on the banks, and the Moorhen, that joyous, light-hearted little bird, was now on land, now in the water. Stokes Bay, the place of embarking for Ryde, is at length reached. Oh! the bright clear sunny water of the Solent, alive with white-sailed yachts! The sea here seems unsoiled by trade or commerce—a pleasure sea, nothing to mar the joy save forts rising here and there wart-like and ugly out of its surface, which tell of war-possibilities and wounds and death. Ugly forts! May never necessity arise for their use; 'tis bad enough that they should spoil the look of the sea. A half an hour's sail and we reach Ryde pier, far stretching-out into the shallow water, and then a long walk on its resounding boards and we are in Ryde itself, where I find Mr. Maynard ready to receive me and drive me to his home some two miles distant. Straight on through clean pleasure-looking Ryde, through Union Street, which is its Regent Street, and indeed the shops might make at any rate a Bath tradesman jealous. On, still climbing. Oh! the Isle of Wight is a perfect purgatory for horses. None but the vicious and over-spirity ones should go there. Kindly, good, gentle horses for flat country; but the ungentle should be threatened with, not "I'll send you to Coventry," but "I'll send you to the Isle of Wight, that I will." If horses ever take to literature I shall expect to see on the railway stalls a book with such a title as this, "Life and its Misery, by an Isle of Wight Horse." Still climbing, passing pleasant villas and neat cottages, when a halt and we enter a gate, past a thatched lodge, and dipping our heads to avoid the pendulous leafy boughs, we drive up an approach, and presently reach a country house which stands out white and clean from the trees around. This is Holmwood, where Mr. Maynard's family have resided for many years. I am first taken out to the front lawn, from which are peeps of the Solent and the coast of Hampshire beyond. We are high above Ryde, but the planting has been so managed that we see nothing of the town, only the sea and the shore opposite. Pleasant this for a town; a new one especially is never picturesque as seen from a country place.

Having enjoyed and admired air and scene, I am next taken to a wood at the back of the house where are numerous wire-haired terriers. These Mr. Maynard and his clerical brother who accompanies us (brother fanciers as well as brothers are the two), keep in considerable numbers, both from liking the breed and because they protect the fowls and Pigeons from rats. No rats can have peace where the ever-worrying, worrying, restless, wire-haired terriers abound. I was glad to see this breed of dog, bred to points and at the same time not crossed by his smooth cousin. The wire-haired is, I believe, the original English terrier, his thick felt-like coat enables him to face weather and not shiver like the modern fox terrier. I have a

lively recollection of some charming terriers at Holmwood. There were several litters of pups, some pure white, others with the more general dark ear and eye. Keeping this class of thorough vermin-hating dogs with poultry and Pigeons is a point. N.B.—Remember this, ye fanciers who are troubled with and are sufferers from rats and weasels and the like "small deer." The dog kennels scattered here and there in the wood had a pleasant appearance. Here a mother asking for notice, and for her pups to be inspected and admired; then another a little way off asking with bright eyes and wagging tail for like favours. These terriers are about the best of their variety in any numbers that I have seen for some years, and as a defence against rats in somewhat rambling poultry and Pigeon places are well chosen. Some of the dogs will no doubt come another day to the front at our exhibitions.

Turning from the dogs I am called to notice some Black Red Game fowls and some Black Hamburgh chickens. How attractive after all and unequalled in colour and symmetry are the Game. Other cocks may be pretty, but the Game cock is far beyond that. Other hens may look domestic and motherly, but the Game hen is beyond both. A door is opened and we reach the Pigeons.—WILTSHIRE RECTOR.

THE RIGHT KIND OF POULTRY FARM.

A CONSIDERABLE number of trees for shade and shelter from rain (for it is not desirable the fowls should be forced into the houses in rainy weather) are needed, and crop-bearing trees would be necessarily selected, which should not only shelter the birds but at the same time yield a considerable return of their own. Apples, pears, plums, and cherries would probably be the standard trees; and a clump of filberts should also be in every run, to afford better shelter than standards would give. In this way alone at least 5 per cent. on the capital would be obtained, which only assumes 30s. worth of fruit from each half-acre run. We may be asked "Who is to think of all these things?" We reply that if poultry farming is ever to pay it must be conducted like every other kind of wholesale business, and every possible thing must be thought of by which returns may be increased or expenses may be saved. It is by reducing everything to well-ordered system, in which everything necessary is done at the smallest possible expense—or, to put it in a plain way of our own, in which capital is freely employed to save expenditure of revenue—that the leviathan establishments which are the pride of civilised nations have been built up and yield the large revenue which they do to their princely owners: but the difference is this, that while the perfect system in these giant manufactories has been slowly matured, and is the perfected product of long experience, in poultry farming on a large scale we have no successful experience to fall back upon. Such experiments as have been made were failures; and it is therefore all the more necessary to supplement such a want by the most anxious thought and care regarding all details which can bear upon the result.—(*The Illustrated Book of Poultry*.)

THE ANGOLA RABBIT.

THE Angola or Angora Rabbit is a native of France and midland portions of Europe, where it flourishes in abundance. In England, however, it has never been a great favourite, presumably owing to its requiring rather more attention than most other foreign varieties.

The Angora is a fair-sized but not a very large animal, unusual size being generally indicative of impure blood, although there is considerable variation in this respect. The animal is generally small-boned and rather delicate in appearance. The fur is long and fine, being more like wool than hair, and quite unlike the orthodox covering of the Rabbit kind. In good specimens it lies along the body in frills or curls, the appearance being very handsome. The ears are short and erect, but not so stiff or strong as in the case of Silver-Grey or Himalaya Rabbits, and in some cases the ears are inclined to be pendant, although the less they are so the better. The head is rather small, but the forehead is prominent. The general appearance is neat and delicate. The chief point of excellence is the wool, which varies very much in strains. The long, soft, and curly variety is certainly the one most admired, and the finer the quality the better. Long, straight, and coarse hair, however it may lie in profusion, is never liked so much as the finer variety.

It is necessary to keep the Angora in a warm and dry hutch, and to subject it to periodical combings, or the wool will become matted, and nothing but the next moult will bring it right.

Mr. Rayson remarks that if the wool does not become matted it is not of the fine nature so admired, and he is quite right. The coarse and straight wool but seldom mats, while soft and fine curly wool rarely remains clear unless combed and kept clean. There need be but little trouble if the matter be properly attended to, but if neglected a free cropping will often be necessary before the animal can be made to look correct. It is strange that a little more is not done in the way of preparing

these animals when sent to exhibitions. Ten minutes' brushing will make a great improvement in their appearance. It is well not to put hay into the hamper, or the seeds will stick in the wool, and if you are not on the show ground to brush them out will detract not inconsiderably from the beauty of the Rabbit.

The colour is usually white, although coloured specimens are occasionally met with. These, however, are not generally so profusely covered with hair, nor is it of so fine a nature. Black, black-and-white, blue, blue-and-white, grey, and grey-and-white are the usual self and broken colours, fawn and fawn-and-white being very rare. We do not recollect having seen a tortoiseshell, a colour that the long wool would be hardly suited to show off to advantage. Winners are sometimes met with of a broken or dark self colour, but most of the successful animals are pure white, the colour which seems naturally to be most fitted to exhibit the lustrous nature of the wool. Still, a well-marked coloured one is rare, and hence to be admired and prized.

As a rule they breed very true to colour, and when a little coloured blood has been admitted into a white strain it seems almost impossible to eradicate it. It is worthy of notice that the most successful strain extant is pure white, long in the wool, curly, and with ears moderately short and slightly inclined to be pendant. The specimens of this strain are generally of pretty good size. The Angora is exceedingly delicate, and requires a little warmth in order to keep it in good condition and to bring its wool into good form, otherwise it will but seldom attain a good size, nor will the wool be as fine as can be wished. Too much warmth will make the ears too long and lopping, so that it is necessary to use a good deal of discretion in the question of heat. As a rule it may be said that the air should be kept at a genial temperature, with a copious supply of fresh air. In disposition the Angora is extremely gentle. Instead of fighting right and left when in company members of this variety will generally fraternise, and with a few exceptions will not fight,

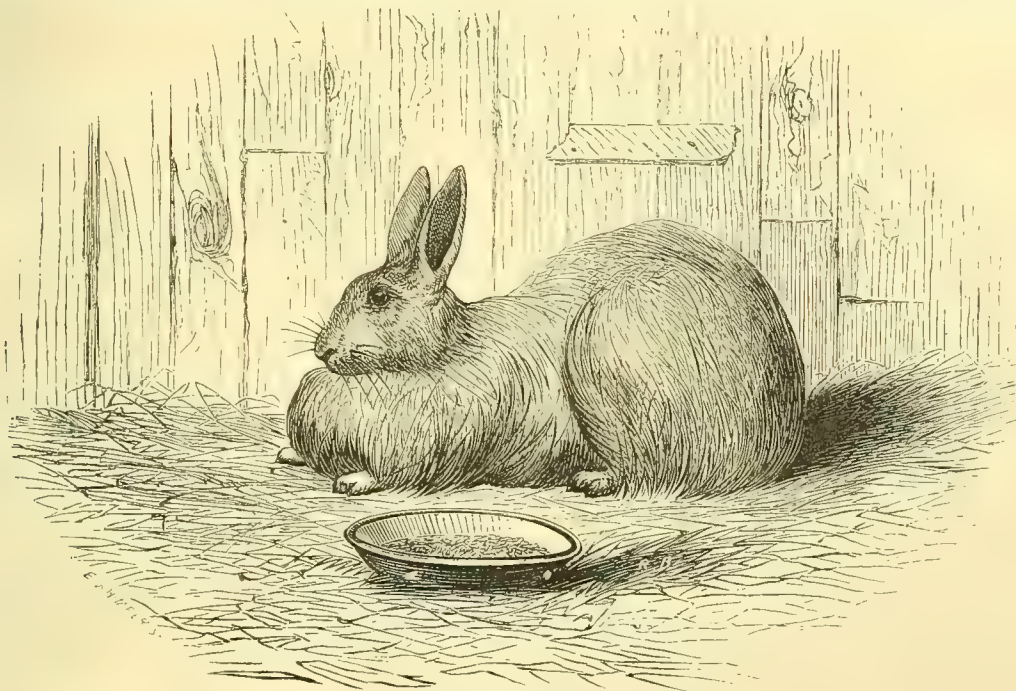


Fig. 15.—THE ANGORA.

especially does; the bucks, though not so quiet, being still considerably more so than those of most breeds.

The doe is fairly prolific, the litters occurring frequently, and five or six being the number generally brought forth. The doe will tear the wool off her chest, often laying herself perfectly bare, and of necessity spoiling her appearance, so that exhibition does must not be worked as breeders. The best age for showing is about a year or eighteen months, the wool seldom attaining its full length or fineness before that time. The young are born quite bare and perfectly pink. At the end of the first week they begin to show a little white down, which increases in length and thickness with age until when the animal has attained the age of a month it is nicely covered. The young are delicate, and a warm and dry hutch is absolutely necessary.—GETA.

THE ALEXANDRA PALACE AND MALAYS.—The Committee have offered £4 towards the Malay prizes. I have undertaken to try and collect sufficient to make prizes for the class, £3, £2, £1, and 10s. I shall be grateful for any help from Malay-breeders. The following have already promised or sent the money:—Mr. E. Stanley, 10s.; Mr. S. B. Perry, 7s. 6d.; Mr. R. Hawkins, 2s. 6d.; and 5s. from—JOSEPH HINTON, Warminster.

VERMIN ON POULTRY.

JNO. E. ROBERTS, in the *Southern Poultry Journal*, says:—“Many fanciers use the carbolic (or carbolated) powder in order to rid their fowls of lice and mites. It is considered the very best of remedies. My plan is one which I think is used by no other breeder, has never failed me in completely ridding my fowls of every insect, and has demonstrated to me its infallibility. It is simply the use of oil of sassafras mixed with sweet oil. To 1 oz. of oil of sassafras put 5 or 6 of sweet oil, and apply

a small quantity to different parts of the body of the fowl, selecting those points where the vermin would be most apt to hide.

“In applying the preparation I fill with it a small oil can, so that I can force out as much or little of the oil as I wish. A very small bit can be made to go a great way, for one drop can be rubbed over 2 or 3 inches of space, and is no more trouble to apply than the various insect powders. I use sweet oil because of its curative powers, but any kind of grease, no matter what, will do to mix with the oil of sassafras. The oil of sassafras is the eradicator, the other oil merely the vehicle. I believe common sassafras tea would be wonderfully efficacious.

“Make it in a large pot, then after allowing it to cool dip the fowls in bodily. In one second the lice will be dead, and in ten seconds the fowl will be perfectly dry if placed in the sunshine. It is hard to form an idea of the magical effect produced by the oil of sassafras. I have never tried the remedy in greater attenuation than that mentioned (one part to five or six), but believe that it would be equally good if composed of 1 oz. oil of sassafras to ten or twelve of any other oil or grease.”—(*Rural New Yorker*.)

BEEES PIPING.

The question of piping is fully discussed and explained in “Bevan on the Honey Bee,” and I can fully corroborate all that is there advanced upon the matter. Bevan says, “It is now, however, ascertained beyond a doubt that the sharp clear notes uniformly proceed from a princess that is at liberty, and that the notes which are uttered in a hoarse key as uniformly proceed from one that is still imprisoned.” Old queens never pipe, and where several young queens are being raised it is only when the bees wish to swarm that piping occurs. When the bees do not wish to swarm the eldest of the young queens is allowed to emerge from her cell on arriving at maturity, and is permitted

to attack and destroy her rivals who are still in their cradles. This is at any rate usually the case, though sometimes a second young queen is permitted to escape, and a duel then takes place between the aspirants to the throne.

Some years since an account appeared in your Journal of what I witnessed in my unicombe hive. The eldest princess when at liberty constantly attempted to gain access to the cells of her rivals, and was as constantly repelled by the workers who had charge of the imprisoned queens. If she came near to the royal cradles the workers seized her by her legs or wings and speedily compelled her to retire. She would then begin to pipe in a clear shrill note, and the imprisoned queens responded in hoarse, dull, short notes.

About a fortnight since the eldest princess in one of my hives began piping in a hoarse note before she had obtained her liberty, and, as I predicted, the following day sharp clear piping was audible, showing that she was at liberty, and I could hear two imprisoned queens responding in hoarse notes. Wishing to save the queens without allowing the bees to swarm I opened the hive and removed two royal cells, the only sealed ones which I then discovered, and the young queens were introduced to queenless hives and were well received. I saw the queen which was at liberty, and heard her pipe while the comb was still in my hands. Next day piping was still going on in both keys, and after some trouble I discovered another closed royal cell. This I opened and allowed the queen to walk out; she was then introduced to a swarm in my unicombe hive. Piping in a shrill note continued in the parent stock during the remainder of the day, but there was no response, as only one queen then remained in the hive.—J. E. BRISCOE, *Abington, Wolverhampton.*

CRACKED EGGS.—It often happens that valuable eggs get cracked in the nest, or before putting them under the hen, or in the incubator. Such may be saved by the application of a little mucilage or liquid glue with a camel-hair brush over the crack, and then rolling the egg in fine plaster of Paris.

TURNING OUT BEES.

Last year I made what Mr. Pettigrew calls a "turn-out," but was disappointed in finding a considerable quantity of young brood in the combs of the old hive. What was the reason of this? The hive swarmed on the 10th of July, but the bees returned and swarmed again on the following day. Twenty-one days after (August 1st) I turned the bees out, and found several combs containing brood varying from the egg to the stage when the brood is still white. According to Mr. Pettigrew there should have been none in the combs but some drones nearly matured. The bees had been hanging out about a fortnight before they swarmed.—C. S. MILLARD, *Notts.*

[We are obliged to Mr. Millard for the above communication, for it gives us an opportunity of explaining what may occasionally happen in an apiary. The brood, or some of it, which was found on the twenty-first day after swarming was, we imagine, about six days old, for the brood of working bees is sealed over when it is from eight to ten days old. The young queen had begun laying about the fourteenth day after swarming. Queens are fourteen days in their cradle cells, and generally speaking begin laying from eight to fourteen days after being hatched. In trying to explain the mystery of the case before us we shall give two reasons why young brood was in the hive. One is that the queen which commenced laying so soon after the hive had swarmed was perfect and ready to burst out of her cell at the time of swarming. A matrimonial alliance may have been effected three or four days after her birth. It is just possible that both of these events happened, and that the queen commenced laying at an early day. These things come within the circumference of possibilities, though they rarely happen, for it is very unusual for bees to permit young queens to be perfected before the mother queen leaves the hive with the first swarm. If weather prevents bees from swarming (first time) till the young queens are approaching maturity they are torn from their cells and cast out of the hive dead. It is rare indeed that bees allow young queens to come within forty-eight hours of the time of their maturity while the mother queen is in the hive.

The second reason we have to give of the brood being unusually early is probably the right one. No history of the queen that went with the swarm has been given; nothing has been said of her doings either before or after swarming. Most likely she was sister (not mother) of the queen left in the hive, both having been produced from the eggs of the old or mother queen, which died about fourteen days before swarming took place. On the supposition that the old queen died when the bees began to cluster outside, it will be observed that swarming took place and egg-laying commenced at the usual times or in the ordinary course of events. All is natural and common on the supposition that the old queen died before the bees swarmed, and this is not an unusual occurrence. In such cases swarming is postponed till the young queens arrive at perfection, when "piping" commences. If we had seen the hive at the time we could

have told with certainty whether the old queen had died or not before swarming. The turning-out process is a useful one, and twenty-one days after swarming is the right time for it. Mr. Millard may turn out bees for as many years to come as we have done in the past without finding another case so exceptional.—A. PETTIGREW.]

OUR LETTER BOX.

GUINEA FOWLS (G. P.).—The time required for incubation is from twenty-eight to thirty days.

HONEY REMAINING IN CELLS (H. T.).—The pressure of the air keeps it in. If there were a small hole made through the bottom of the cell the honey would flow, for then the pressure of the air would be equalised at each end, and the gravity of the honey would cause it to flow. There is a slightly elevated rim round the mouth of each cell, which rim also helps to retain the honey.

ARTIFICIAL SWARMING (Rose).—You have done well to swarm your bees artificially, and thus prevent them from wasting their time in clustering about the door of their hive. The swarm we think will be strong enough without the bees of the old stock, though doubtless they would make it stronger. If the stock is heavy now you might succeed in getting another bar-frame hive filled by driving all the bees of the stock into it on the twenty-first day after swarming; and if you take the honey in the autumn from the other hive, which you have supered, its bees could be united to the second swarm or turn-out. Thus two hives of honey and the super and two good stocks of bees would be obtained. Dahlias are not hurtful to bees. Your success this year will give you courage and confidence amongst your bees.

FLIES IN ROOM (Musca).—Burning coarse brown paper in a room drives some out and stupefies the remainder.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 38' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.						Rain.
1877.	Baromet. at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at foot.	Shade Tem- perature.		Radiation Temperature.			
July.		Dry.	Wet.			Max.	Min.	In sun.	On grass.		
We. 4	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.	
Th. 5	29.998	68.6	57.4	N.W.	67.3	71.4	52.2	124.4	32.0	—	
Fri. 6	29.958	63.5	55.2	W.	61.0	71.1	49.2	123.7	45.8	0.420	
Sat. 7	29.870	53.2	52.0	W.	60.0	67.0	46.3	121.6	44.6	0.051	
Sun. 8	30.121	58.5	52.4	W.	59.0	69.9	44.2	124.2	41.8	0.170	
Mo. 9	30.231	58.7	53.0	W.	58.5	68.4	43.6	114.3	41.5	0.090	
Tu. 10	30.314	60.3	55.6	S.W.	58.2	67.7	48.3	105.0	44.7	—	
Tu. 10	30.208	67.1	61.2	S.S.W.	59.0	77.6	33.6	121.9	50.0	—	
Means	30.100	61.4	55.3		59.4	70.0	45.3	119.4	42.9	0.731	

REMARKS.

- 4th.—Morning rather grey; fine at midday, and pleasant throughout.
5th.—Fine morning; showers during the afternoon, and heavy thunder between 6 and 7 P.M., with heavy rain and some hail.
6th.—Fine morning; rain at noon; thunder in the afternoon, but fine night.
7th.—Fine all the morning; but severe thunderstorm and heavy rain at 8 P.M.
8th.—Fine morning; sharp shower at 1 P.M. and again at 6 P.M., but fine afterwards, though cloudy at night.
9th.—Fine morning; rather stormlike in the afternoon, but soon passing off, and fine night.
10th.—Very fine all day and very warm.
Much cooler than last week, with somewhat frequent thunder. The very low grass minimum on the 4th was due to the heavy fall of hail on the previous evening.—G. J. SYMONS.

COVENT GARDEN MARKET.—JULY 11.

OUTDOOR fruit is now beginning to put in an appearance, but showing at present a light crop and making good prices. Trade for best goods brisk.

FRUIT.

	s.	d.	s. d.		s.	d.	s. d.
Apples.....	½	sieve	0 0 0 0	Melons.....	each	3 0 to 8 0	0
Apricots.....	dozen	1 6	3 0	Nectarines ..	dozen	12 0	30 0
Cherries.....	lb.	0 6	2 0	Oranges.....	¾ 100	10 0	16 0
Chestnuts.....	bushel	0 0	0 0	Peaches.....	dozen	8 0	30 0
Currants.....	½ sieve	3 6	4 6	Pears, kitchen..	dozen	0 0	0 0
Black.....	½ sieve	0 0	0 0	desert.....	dozen	0 0	0 0
Figs.....	dozen	3 0	12 0	Pine Apples...	lb.	2 0	5 0
Filberts.....	lb.	0 0	0 0	Plums.....	½ sieve	0 0	0 0
Cobs.....	lb.	0 0	0 0	Raspberries...	lb.	0 6	1 0
Gooseberries..	½ bushel	3 6	4 6	Strawberries..	lb.	0 6	2 0
Grapes, hothouse	lb.	2 0	8 0	Walnuts.....	bushel	5 0	8 0
Lemons.....	¾ 100	6 0	10 0	ditto.....	¾ 100	0 0	0 0

VEGETABLES.

	s.	d.	s. d.		s.	d.	s. d.
Artichokes.....	dozen	3 0	6 0	Mustard & Cress	punnet	0 2	to 0 4
Asparagus.....	¾ 100	8 0	6 0	Onions.....	bushel	0 0	0 0
Beans, kidney..	¾ 100	1 0	2 0	pickling.....	quart	0 4	0 0
Beet, Red.....	dozen	1 6	6 0	Parley.....	doz.	bunches	2 6 1 0
Broccoli.....	bunch	0 9	1 6	Parsnips.....	dozen	0 0	0 0
Cabbage.....	dozen	1 0	2 0	Peas.....	quart	0 6	1 0
Carrots.....	bunch	0 6	0 8	Potatoes.....	bushel	2 6	4 6
new.....	bunch	0 9	1 8	Kidney.....	bushel	8 0	5 0
Capsicums.....	¾ 100	1 6	2 0	New.....	lb.	0 2	0 6
Cauliflowers...	dozen	2 0	4 0	Radishes.....	doz. bunches	1 0	1 6
Celery.....	bunch	1 6	2 0	Rhubarb.....	bunches	2 6	1 0
Coleworts doz.	bunches	3 0	4 0	Salsify.....	bundle	0 9	1 0
Cucumbers.....	bunch	0 6	1 6	Scorzoneria...	bundle	1 0	0 0
Endive.....	dozen	1 0	2 0	Seakale.....	basket	0 0	0 0
Fennel.....	bunch	0 8	0 0	Shallots.....	lb.	0 8	0 6
Garlic.....	lb.	0 6	0 0	Spinach.....	bushel	2 6	4 0
Herbs.....	bunch	0 2	0 0	Turnips.....	bunch	0 0	0 0
Lettuce.....	dozen	1 0	2 0	new.....	bunch	0 9	2 0
Leeks.....	bunch	0 4	0 0	Veg. Marrows..	each	9 0	0 0
Mushrooms...	pottle	1 6	2 0				

WEEKLY CALENDAR.

Day of Month	Day of Week.	JULY 19—25, 1877.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.		Day of Year.
			Day.	Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.		m.	a.	
19	Th	Colchester and Aberdeen Shows.	73.2	49.9	61.1	4	7	8	5	3	41	11	19	9	6	1	200
20	F		73.2	50.2	61.7	4	9	8	3	4	58	11	51	10	6	5	201
21	S	Cleckheaton and Bromley Shows. S SUNDAY AFTER TRINITY.	74.0	50.8	62.4	4	10	8	2	6	4			11	6	8	202
22	SUN		72.2	51.4	61.8	4	11	8	1	6	58	0	55	12	6	10	203
23	M	Sale of Nursery Stock at Hammersmith. Rochampton Show.	74.0	51.4	62.7	4	13	9	58	7	37	1	33	18	6	12	204
24	Tu		72.6	51.7	62.1	4	14	9	57	8	5	2	40	14	6	13	205
25	W		73.9	49.4	61.9	4	16	9	56	8	25	3	53	●	6	14	206

From observations taken near London during forty-three years, the average day temperature of the week is 74.7°; and its night temperature 50.7°.

DISBUDDING ROSES.



Do we exhibitors—amateurs I mean, for I do not of course presume to speak of or to discuss the practice of the profession—do we disbud our Roses too freely?

This is a very important question, and now that the shows are over—for before these notes are printed the last show of the year will have been held at the Westminster Aquarium, and the great nurserymen will all be hard at work budding, and the pressure on your space will be much lessened—now is a good time to discuss it. The question occurred to my mind as I read “*D., Deal’s*,” account of the Rev. W. F. Radclyffe’s Roses, and the force of it has been increased by two visits I have lately paid, one to a nurseryman’s and the other to an amateur’s garden.

“*D., Deal*,” in speaking of his visit to Okeford Fitzpaine, says, “My friend never exhibits and never disbuds;” and then he proceeds to name certain varieties which were splendid. He especially names Charles Lefebvre, saying how beautifully the petals were shaded with velvet of a darker colour. With the exception of some blooms of Mr. Baker’s I have not seen this Rose really good this year. Certainly I have not had one good bloom myself and I have fifty plants, and I can remember quite well that the year I commenced growing Roses how fine this Rose was on the Manetti, and then I did not disbud. I think Canon Hole describes this Rose or Lord Raglan, I am not sure which, but the description is so beautiful and appropriate to Lefebvre that I prefer to claim it for that lovely Rose—“The colour is exactly like a sunbeam in a goblet of Burgundy;” and since the first few years of my growing Roses I have never seen that variety so nearly come up to this description as it did then. Of course I am open to correction, indeed to annihilation, when I ask, Can disbudding be carried to too great an extent? and I answer it can in my opinion and often is.

Now, there are two kinds of disbudding—first, the thinning of shoots; and secondly, the rubbing-out of the side buds and of the buds all down the shoot, so as to drive all the sap and strength of the plant into one bud. In some large nurseries which I will not name this is done to an enormous extent, and the results certainly are splendid blooms of extraordinary size, but when these are cut all further blooming of these plants for this season is over. Of course this is not of the slightest consequence to the great nurserymen, who as soon as the shows are over care not for blooms, nor indeed have time to think of anything but budding; but it is a very different thing with amateurs.

Let me state my own case. On the day I cut for the Crystal Palace—viz., the 23rd of June, I was not able to cut a single bloom in my front garden. On the 5th of July, when I staged for Hereford, I only cut three blooms (in the front) of Hybrid Perpetuals. Between the Alexandra Rose Show and the National—i.e., between the 29th of June and the 4th of July, the blooms on my front

came and went. They are now completely over. For Clifton-to-night I did not cut any blooms but Teas and one solitary bloom of Mdle. Marie Cointet. Not one week out of the fifty-two did my blooms last. And what is the reason of these short-lived blooms? I answer, Disbudding and excessive forcing.

As I looked over my front to-day I could not help asking myself, Have I not been a little selfish? For fifty weeks in the year the whole of my front has looked hideous; nothing in the shape of a flower. Roses growing in lines on terraces one below another, next a blaze of colour for one brief week, and then the same monotonous sight again. “Second blooms,” some one may exclaim; “what of them? Won’t you have numbers of them?” Second blooms, I answer; what of them indeed. Let me quote once more our President’s words—“They are but the gleanings of the Grapes, the echo of the chorus.” Where they do come they are scarcely fit to be called Roses, and they do the plants no good. Now, if I had not disbudded so much all the side buds would follow after the central blooms and still make the garden gay, and give poor Mrs. Savage something to look at and some blooms to cut for her drawing-room, but now there literally is not a bloom, except, always excepting, the lovely Teas. This is, of course, to a certain extent a sentimental reason, but certainly it is an unselfish one, and should have a certain weight.

But I now come to a more prosaic question. Is so much disbudding really necessary? Cannot good show blooms be obtained without it? I almost tremble as I write No to the first question, and Yes to the latter. But I do still assert my conviction that fine blooms can be obtained from plants which are left to grow naturally; and why do I say so? Because I have seen them. Let me now say where.

Mr. Walters is a nurseryman at Exeter from whom I buy many Roses every year. He is one of the best rosarians I know. He also supplies Mr. Baker with the main portion of his plants. He grows splendid stuff; he works his dwarfs very low, suckers from his plants are unknown, and he buds them all himself with the assistance of his sons; and in July his nursery is one of the grandest sights I know. His blooms are always good and very often superb, and he never disbuds. Mr. Baker and I have pressed disbudding upon his notice, entreated him to practise it, but he only replies, “I can get good blooms without. I can sell all the plants I can work without going to exhibitions, and I like to have blooms to show my customers when they visit me.” And so he always has, and wonderful good blooms too.

The other place I visited was of quite a different order. In Lyme Regis a little above the town is situated the vicarage house belonging to the Rev. Dr. Hodges, who is exceedingly fond of Roses. He cultivates these not largely as exhibitors would consider, but very largely for a man who thinks only of garden decoration. He asked me to go and see his Roses, and though I could ill spare the time I did so, and so pleased was I with what I saw that I was very glad I had gone. In this lovely garden on

terraces sloping towards the east are beds of standards and dwarfs beautifully laid-out and planted—garden decoration being the only object in view; but the blooms were so fine that I persuaded Dr. Hodges to let me show a box for him at Clifton, and went over myself and staged them for him. Many of the blooms I saw were as fine or finer than any I have had this year, and yet he never disbuds; I believe he would think it sacrilege to do so. He positively shuddered as I proposed it to him.

Here, then, are three cases—Mr. Radclyffe's, Mr. Walters's of Mount Radford, Exeter, and the Rev. Dr. Hodges's of Lyme Regis. All grow splendid flowers, and none disbud. It seems to me, then, that it is evident that good blooms can be grown without excessive disbudding.—WYLD SAVAGE.

FERTILISERS AND THEIR APPLICATION.

ON the face of it the excellent letter of "J. B. K." on page 33, criticising the mode I detailed of applying fertilisers to garden crops, appears to possess crushing force. It is a common saying that figures when put clearly cannot be "got over." I have no occasion to attempt to "get over" the figures of your correspondent, because he has left ample room between them. We sometimes see allusions made to reading between the lines. I am now going to indulge in reading between the figures, and I hope thereby to find and point out a lesson that may be useful, and one that has an important bearing on the subject at issue. Possibly in doing so I shall interfere with the logic of your correspondent, but that I cannot help; in fact, my object, which I will not attempt to disguise, is to weaken the case of "J. B. K." and to strengthen my own. It is just a case of practice against science—a plain worker against an accomplished rhetorician and skilled theorist. I do not find the slightest fault with the way in which "J. B. K." has discussed my letter, and I feel sure he will not demur to my mode of dissecting his. It has been said, and I think truly, that when science and practice clash that either the one or the other is wrong—the science is not true, indeed is not science at all, or the practice is not sound. I will now endeavour to prove that my practice of applying guano, &c., to garden crops as detailed on page 476 is not unsound. I cannot do this by figures, but I can by evidence, which is equally powerful—results, facts.

But in the first place I must refer to the figures of "J. B. K." and see what is in them, and especially what is between them. Guano is first mentioned by your correspondent, and it will suffice that I refer exclusively to that manure. I will not question the accuracy of the figures but will take them as they stand. According to my showing and which was fairly admitted by "J. B. K." my mode of applying guano to rows of Peas and Scarlet Runners in trenches—namely, pouring a gallon of water holding in solution about 1½ oz. of guano to a square foot of soil, is reduced to just half that quantity of manure, as I particularly explained when a soaking of pure water was given just previously, which is the right mode of applying liquid manure in dry weather. Now the cost per acre at that rate of application according to the reckoning of "J. B. K." is £120. Now for the "between," for it is there that "J. B. K." is at fault—seriously at fault—and where his science must, I think, fall before my practice. I assert, and will prove my position to demonstration, that the amount there given is at the least five times too large, for the simple reason that the rows of Peas were 5 feet, and the rows of Beans more than 6 feet apart, and not a particle of manure was used between the rows. I must ask "J. B. K." therefore, to deduct the quantity and amount from the space between the rows—more than four-fifths of the acre, and further ask him if he seriously believes that the amount actually given "poisoned the crops?" I will not, however, permit a matter so important to rest on the mere opinion or belief of anyone, but will answer the question myself, and I desire my reply to be firm and emphatic. It did not poison the crops, it did not injure them, but it benefited them.

In point of fact it could not do otherwise than benefit such crops during such a season as the one referred to, and I further assert that the fertilisers were used profitably—hence economically. The great advantage in applying support in that form is that it goes direct to the object. It is not wasted between the crops by making the weeds (where there are any) more luxuriant, but is appropriated by the crops which require assistance and which give a profitable return on the outlay invested.

Let me here remark that the homœopathic mode of applying fertilisers is during some seasons—perhaps during most, and under a majority of conditions—not only not economical but often wasteful. I have recently read an account of an artillery duel between two opposing batteries. The shots from one battery all fell short. The powder was no doubt the best of its kind, but there was not enough of it; it was wasted. It is precisely the same with fertilisers. They may be of the best, but if they are not applied in sufficient quantities and in obedience to the dictates of the state of the crops and the requirements of the owner of them, taking into account also the character of the season and the nature of the soil, they are wasted, and what was considered as economy really becomes extravagance. In such a season as the one referred to guano is wasted when merely sprinkled on the surface of the soil "once a-year at the rate of 3 cwt. per acre." I can adduce actual proof of that—namely, that 3 cwt. per acre applied once a-year is extravagance, while frequent applications of the quantities I recommended are profitable. That statement appears paradoxical, but I have proved the truth of it by results. I have had something "to do" with a farm. During the year referred to the orthodox quantities of fertilisers were applied to the farm adjoining the garden where I was engaged; but the farm produce was miserable—a failure and loss, great loss was incurred, yet the garden crops were full, good, and profitable. By want of food lambs died by scores, and the shepherd sent every morning to the garden for such green food as he could be supplied with to prevent further loss by the barrenness of the farm.

But the question is one of gardening, not of farming, and I should not have brought forward that experience had not "J. B. K." advocated farm quantities. I say that farm quantities are totally inadequate for garden purposes. The quantities I recommended on page 476 are for garden crops. I have proved that they are safe quantities, and, when applied as there stated, profitable. The quantities are safe, but the frequency of their application depends on circumstances—on the condition of the crops and the weather. During the year referred to the crops were soaked no doubt about "eight times," and I am sure not one too many. In a season like the present one or two applications would suffice to enable the crops to be luxuriant—full—profitable.

Farm quantities of fertilisers as applied to garden crops are starvation quantities, and would drive a market gardener into the Bankruptcy Court. The amount of manure annually used in the market gardens of London is five times as great as is ordinarily used on farms. Would those thrifty, industrious, and I may justly add splendid cultivators expend such immense sums in purchasing manure as they do if it were not profitable? It is obvious that they neither would nor could do so. It is half manuring and half watering that are really extravagant; adequate manuring and adequate watering which are lucrative, and therefore economical. The quantities of water and manure that I have recommended are every year appropriated by the crops in the London market grounds.

It may be well to pause for a moment and ask, What is a good farm crop and what a good garden crop? I do not know that the former can be put more fairly than by stating that the produce of two acres of average land is required for three years to grow and fatten a good bullock, which is then worth about £30. Now, let us take a typical garden crop—Onions. Mr. Aberhant of Mitcham has grown 16 tons of Onions on an acre of ground, and sold them for £12 per ton—£192 per acre; and last year Mr. Bishop, Bylaugh, East Dereham, produced a crop which averaged 30 stones per square rod, or about 30 tons to the acre. This extraordinary crop was produced by the aid of liquid manure, principally stable urine, and much stronger than any applications which I have recommended, and which "J. B. K." alludes to as wasteful. But I do not consider that Mr. Bishop wasted the liquid manure when he produced a crop of Onions worth, at £12 per ton, nearly £400 per acre. These weights and values are not arrived at by any mere rules of logic, but are crops which have been actually produced. They prove also the great difference between farm and garden culture, and how utterly inadequate are the quantities of fertilisers recommended by your correspondent for the full and lucrative production of garden crops.

"J. B. K." has also stated that the quantity of water that I named as having been given during the tropical summer of 1868 was excessive. His position on this point is admittedly theoretical, and is, I submit, fallacious. Your correspondent takes the rainfall as his base, and says that as the average

rainfall of a very moist summer is about 4 inches a month, therefore I gave twice as much water as the crops required. I had two very powerful reasons for not giving more than was required—namely, the difficulty of procuring water and the lack of time for using it. If my twenty-five years of experience as a gardener has taught me anything—experience which I think the Editors know has not been without some fruits—it is this, that the crops did not receive a drop too much.

Opinions deduced from rainfall are not always sound, and they never can be sound unless something besides the mere rainfall is considered. The rainfall in the hill district of Cumberland is of more than twice the weight of the rainfall in the fens of Lincolnshire and the flats of Cambridgeshire, but the influence of the water on the soil and crops is about the same in both cases. No one can say that Cumberland has twice the quantity of rain that is necessary for the district, or that the fen country on the east coast has only half sufficient. The fact is that during most seasons it is more than the crops require, notwithstanding the little that is caught in the gauges.

The rainfall taken alone is no test as to the real dryness or wetness of a district, nor is the amount falling on a "rainy day" a sufficient guide for applying water artificially during a period of tropical weather. A dull rainy day when only an inch of rain falls has more power in supporting the crops than has water representing in amount 3 inches of rain when the element is applied artificially during a period in summer when the days are cloudless and the nights dewless. It is not the actual water that falls from the clouds that must be the sole guide in determining the requisite artificial supply, for there is another all-important factor in the sum (measureless it may be, but is yet immense)—evaporation—which must be taken into account, and without which any conclusions arrived at will and must be erroneous. "J. B. K." appears to have overlooked the question of evaporation as he had forgotten the ground between the crops. I adhere to all I have previously written on fertilisers and their application.—A RETIRED GARDENER.

ROSES IN SOUTH WALES.

MUCH, but not a line too much, is written about Roses in England, but reference is rarely made to Roses in Wales, hence an allusion to them may be acceptable.

Some varieties of Roses commenced blooming here about the second week in June, but the earliest buds do not as a rule produce the finest blooms, as they are often injured by the cold winds in April. The best flowers follow the buds formed in May and the early part of June, and consequently ours were about at their best during the "Rose week"—the time of the National Show. The season has been favourable to a certain extent for Roses in this part of Wales—a mild spring, plenty of rain, and a good deal of heat, only too frequently overbalanced by cutting east winds. The winters here are comparatively mild and the summers hot. The soil in every part would not grow Roses well, but abundance of excellent loam can be had to form beds, and the situation is well sheltered from the north about two miles off, and partially protected from the sea, but is much exposed to the east, from whence much damage is done in spring.

There is more in having a good situation for Rose-growing than good soil. Deficiency in the latter can always be made up by manure, but it is no easy matter to have good Roses in a bad season without shelter. Some say that late pruning will induce late blooming. This may be so, but early pruning will not cause the plants to bloom early. Some Roses were pruned here in November last, and others in March and April, but they all bloomed together just as if they had been pruned on the same day.

Referring to our best varieties and those which seem to succeed best in this part, Duchess of Edinburgh has come out well, and so has the Duke of Edinburgh, which is much superior in form and colour to the first-named. By far the best dark Rose we have is Louis Van Houtte. It has not grown very strongly, nor the blooms are not large, but the depth of claret shade in them is superb. La France, in a position where it only gets an hour or two's sun in the afternoon, has grown well and opened some good blooms, and they remain much longer perfect than when fully exposed to the sun all day. Hippolyte Flandrin is somewhat after the same colour, but more globular in form and a freer bloomer. The old Général Jacqueminot still shows up well amongst the others, and this, with Charles Lefebvre and John Hopper, are three Roses which would, I think, succeed anywhere. Baronne de Rothschild

bears the same character and is doing well here. Sénateur Vaisse has some splendid blooms. Thomas Mills and Thomas Methven have not succeeded. The first is weak in growth; the latter has grown well enough and shown plenty of buds, but not one of them has opened. Prince Camille de Rohan, a fine Rose in some districts, is not so with us; and Princess Antoinette Strozio is poor; but Marquise de Gibot and Marquise de Mortemart are both splendid, the latter especially, although it is said to be delicate in many places. François Michelson does as well here as it need be desired anywhere. Centifolia Rosea has plenty of wood and leaves, but is deficient in flowers. Edouard Morren is splendid, its massive pink blooms not being surpassed in size or substance by any other sort. Without enumerating more varieties I may state that, with the few exceptions which occur in all gardens, Roses will do equally as well in South Wales as in any part of England, and the only thing to be regretted is that they are not grown more extensively than they are.

There is only one really good amateur's collection in the neighbourhood, and that belongs to Mr. Powell, Eglwyswmyd, who has a garden that shows there are exceptions to all rules when it is asserted that farmers' gardens are invariably characterised by bad management. All our Roses are on the Briar and Manetti stocks, and so are a good many of Mr. Powell's, but this season he is trying some on Mr. Prince's seedling Briars, and so far they have done well.

Amongst the Hybrid Perpetual varieties of more than ordinary merit in the Eglwyswmyd collection I may name L'Esperance, Fisher Holmes, Horace Vernet, both magnificent darks; Dupuy-Jamin, Duc de Wellington, Countess of Oxford, Boule de Neige, Abel Grand, Baronne Prevost, Sir Garnet Wolseley, Dr. Andry, Jean Cherpin, Madame Victor Verdier, Pierre Notting, May Turner, and Monsieur Claude Levet. Tea-scented—Cheshunt Hybrid, Alba Rosea, Clotilde, Homère, Madame Falcot, Safrano, Marie Van Houtte, Souvenir de Paul Neron, Madame Margottin, and Perle de Lyon. These Teas are chiefly growing in a border against the house, and if they are more tender or worse to cultivate than the Hybrid Perpetuals they have not yet shown signs of it here.—J. MUIR, Glamorganshire.

CARNATIONS AND PICOTEEES.

PHILLIPS has written the history of these flowers, and we have little to add to his notes. Chaucer says that the Clove Gillyflower was cultivated in this country as early as the reign of Edward III., and that it was used to give a spicy flavour to ale and wine, and from hence it was called Sop-in-wine:—

"Ther springen herbes grete and smale,
The Licoris and the Setewale,
And many a Clove Gilofre,
——— to put in ale,
Whether it be moist or stalle."—Chaucer.

It seems to have been a flower in high estimation in Queen Elizabeth's time, since we find it so often celebrated by the poets of her day. Spenser, who was remarked for his care in retaining the old manner of spelling, calls them Coronations, probably because they were used on these festive occasions, and from hence the name of Carnation seems a corruption. Some writers are of opinion that they were called Carnations after a flesh colour so distinguished, whilst others suppose that the colour was so named from the tint of the Carnation flower.

"Carnation'd like a sleeping infant's cheek."—Lord Byron.

Spenser says in his "Shepherd's Calendar":—

"Bring hether the Pincke and Purple Cullambiae,
With Gelliflowres;
Bring Coronations, and Sops-in-wine,
Worn of paramours."

The name of Clove, as well as that of Caryophyllus, was given to this species of Dianthus from the perfume being similar to that of the spice so called, and the flower was on that account frequently used to flavour dainty dishes as well as liquors, and it was also thought to possess medicinal properties. Gerarde tells us that he had a Carnation with yellow flowers, "The which," he says, "a worshipfull marchant of London, Master Nicholas Lefe, procured from Poland, and gaue me therof for my garden, which before that time was neuer seene nor heard of in these countries."

He enumerates by name forty-nine kinds of Carnations that were cultivated in the time of Charles I., whose Queen was excessively fond of flowers; but although it appears that varieties were then procured from France and other parts of

the Continent," yet the largest and principal kind of Carnation was then distinguished by the name of the Old English Carnation.

During the civil commotions of the latter part of the reign of Charles I. and of the Commonwealth, this flower seems to have been nearly lost in England, as Mr. John Rea remarks in the "Flora" which he published in 1665, that we had formerly many good kinds, but that few of them were then to be found in any of our gardens. The Dutch had then taken up the cultivation of the Carnation, and we renewed our gardens with these flowers from Holland during the reign of Charles II., as Rea observes:—"Of these Dutch flowers I have known more than a hundred distinct varieties by several names, all of them fair, large, and double flowers." He also remarks that these plants were not so hardy as those that had been formerly cultivated in England. In a later edition of Mr. Rea's "Flora" 360 good sorts of Carnations are enumerated; and to show how high this flower was in the estimation of that author, we give his own words:—

"For various colours Talips most excel,
And some Avemonies do please as well,
Bannunculus in richest scarlets shine,
And Bear's Ears may with these in beaute joyn;
But yet if ask and have were in my power,
Next to the Rose give me the Gillyflower."

Modern florists divide these flowers into three classes—Flakes, Bizarres, and Picotees. The Flakes are so called from

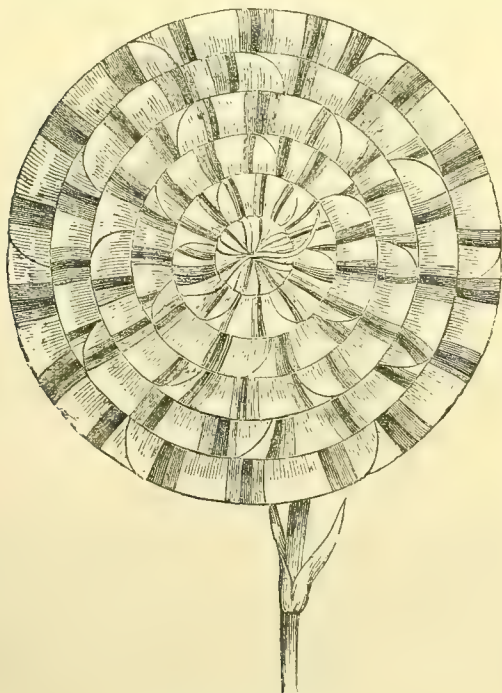


Fig. 16.—The Carnation.

having two colours only, and their flaky stripes going quite through the petals. Bizarres are so named from the French word, which signifies odd or fantastical. These kinds have not less than three colours, and are variegated in irregular stripes or spots. Picotee is a corruption of the French, *piquetée*, pricked or spotted. These flowers are distinguished by having a clear ground, pounced or spotted with purple, rose, red, or other colours. These classes are again subdivided, as Pink Flakes, Scarlet Flakes, Purple Flakes, Yellow Flakes, &c., and the Picotees and Bizarres run through the same changes almost to an endless amount.

It is gratifying to observe that a flower so old and honoured as the Carnation—the "Coronation flower"—a fit flower for a diadem—is honoured still. "Next to the Rose," said old Rea, "give me the Gillyflower" (Carnation), and more than two hundred years later we say the same, for like the Rose it is hardy, beautiful, and sweet. Wherever the Rose will flourish there also will the Carnation prosper. Let them dwell together in sweet companionship. But while the Carnation will succeed

where the Rose thrives, the Rose will not always flourish where the Carnation grows and flowers in healthy freedom. The Rose, although otherwise so hardy, speedily succumbs to a polluted atmosphere; the pure breath of nature is indispensable for its well-being. But the Carnation is a flower of and for the town as well as the country. A murky atmosphere cannot prevent its beauty unfolding or its perfume penetrating the smoke-laden air. It is the flower of flowers for town gardens—the little home plots which skirt our cities, and we would like to see it in all of them—a hardy garden flower. We know of some Carnations now in a little London garden which are viewed with envious eyes (is not such envy pardonable?) by the passing crowd.

As an exhibition flower the Carnation is equally worthy of patronage. It is the cultivating and exhibiting of beautiful flowers—florist flowers—which increases their popularity. Had it not been for a previous exhibition of the National Carnation Society the flowers referred to in the little London garden would not have been there. We know, too, of another town garden where some of the varieties which charmed the visitors at South Kensington last year are now growing and blooming. Perhaps these small collections are owned by exhibitors in embryo. Who knows? But at any rate the flowers are doing good, for they are imparting pleasure, and brightness, and sweetness where such influences are required and where they are appreciated. These are only two instances of the power

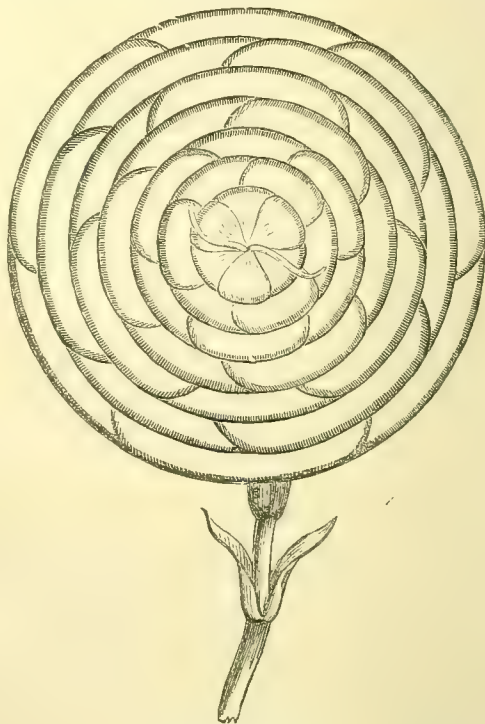


Fig. 17.—The Picotee.

of exhibitions in promoting the cultivation of flowers. Can they be the only two? We think not; but, on the contrary, we think and we hope there are many more. We wish, therefore, to see exhibitions of florist flowers increase and expand, because their direct tendency is to increase the love for flowers. All who are engaged in such a work are engaged worthily, for we consider the object to be of great public advantage, and our hope is that the exhibition of Carnations and Picotees now on the eve of being arranged will be very successful.

It was recently stated by a correspondent that the season of blooming and the time of increasing the Rose occurring together contributed materially to increase the cultivation of that flower. The Carnation possesses the same advantage. It is during the period of flowering that layering must be effected and pipings inserted. A good old florist has given the following directions on propagation. If any modern florists can describe better modes we shall be glad to record them:—

"**LAYERING.**—The plant should be placed in the sun, so that it may become dry and pliable before the layers are bent

down, as when they are too full of moisture the branches frequently snap off at the joints. The layers are prepared by cutting off their lower leaves, and an incision is made by entering a quarter of an inch below the joint, and passing the knife up through the centre of it. It is then placed on the earth, which should be first stirred up, and after it is properly pegged down the branch should be covered with a good light but rich earth, about half an inch in depth.

"PIPIINGS.—Where shoots are too short for layering, or where they become broken by accident, it is necessary to have recourse to piping, and for this purpose it is necessary to have a slight hotbed, and cover it 4 or 5 inches deep with fine light soil, laid very regular and even. The cuttings intended to be piped are to have two complete joints—that is to say, they are to be cut off horizontally close under the second joint. The pipings are then to be firmly inserted in the soil, but not more than half an inch deep; they are to be very gently watered, in order that the earth may adhere more closely to them, and thereby keep out the air. After this watering they are to remain open, but not exposed to a hot sun, till their leaves become perfectly dry, after which the glass is to be placed over the same mark that was made by it upon the surface of the soil. The soil should be kept regularly moist till they have formed their fibres; but too much moisture is as prejudicial as too little. The pipings should have a little of the morning sun, but must be shaded from it when the heat becomes considerable."

The characteristics of a Carnation are, says one of our contributors, best seen by the figure, which is, however, not more than half the size to which modern floricultural skill has brought this flower. The pod (as the calyx is technically called) should be long, as then the flower is not liable to burst it, as is the case when it is short. The flower should be quite circular, and rising up gradually towards the centre, so as to form half a ball. The outer or guard petals should be large and few in number, and the other petals should be regularly disposed on them, and diminish in size towards the centre. In saying this he begs it to be borne distinctly in mind that such a flower as is represented in the drawing is what is called a dressed flower. The texture of the petals should be thick and waxlike, and the markings distinct and clear; the ground a pure white, any flushing or running of the colour being a decided disqualification.

In the case of the Picootee the same rules hold good in reference to shape and substance; while the colour should be confined to the edge, and not run down the petals in bars.

ROYAL HORTICULTURAL SOCIETY.

JULY 17TH.

For several months past the meetings, which have often been exhibitions of considerable magnitude, have been held in the conservatory, but on this occasion the Council-room was occupied by the Committees and exhibits, and it must be added was occupied well. The tables surrounding the room were quite filled with Vines in pots, flowering and fine-foliaged plants, cut flowers such as Roses, Fancies, Pelargoniums, &c., several dishes of fruit, and good examples of vegetables. There was also a good attendance of horticulturists.

FRUIT COMMITTEE.—John Lee, Esq., in the chair. Messrs. Lane & Son of Berkhamstead sent six Vines in pots of extraordinary growth, which were considered by the Committee to be the finest that had ever been exhibited at any meeting of the Society. The Committee recommend them for the award of a silver medal. There were four Black Hamburgs and two Foster's Seedlings. Some of the bunches on the former would exceed 3 lbs. in weight, and on one of the latter we counted twenty bunches averaging a pound each. Mr. Ollerhead, gardener to Sir Henry Peek, Wimbledon House, sent a well-grown Queen Pine weighing 4 lbs. 12 ozs., to which a letter of thanks was awarded. Mr. Miles of Wycombe Abbey exhibited a remarkably fine dish of Bigarreau Napoleon Cherry, to which a cultural commendation was awarded. Mr. Burnett, The Deepdene, Dorking, sent two fine dishes of Peaches and one of Nectarines, which received a cultural commendation. Mr. W. Bull, King's Road, Chelsea, sent a brace of Cucumber Excelsior, fruit of which was exhibited at the last meeting. It is a handsome Cucumber of the old-fashioned White-spine class, to which a letter of thanks was awarded. Mr. J. Geary, Moreton Gardens near Bideford, sent a seedling Cucumber which was not an improvement on other varieties in cultivation. Mr. Charles Turner, Slough, sent a dish of Schoolmaster Potato and Dandie Dimont Peas, and as both of these are growing at Chiswick the decision of the Committee was reserved for a meeting at the garden. Mr. I. Collett, gardener to W. J. J.

Higgins, Esq., Hambledon, Hants, sent a dish of Peas, which is no improvement on ordinary Peas. Messrs. Carter & Co. sent plants of a fine-looking Pea named Little Wonder, of which they entertained a high opinion, and recommended that it be tried at the garden. Mr. H. J. Hardy, Bures, Essex, sent plants of a new Pea called Sequel, and it was recommended to try it at Chiswick.

FLORAL COMMITTEE.—W. B. Kellock, Esq., in the chair. Messrs. James Veitch & Sons, Chelsea, exhibited a collection of extremely fine tuberous Begonias. First-class certificates were awarded to Monarch—a real monarch in its class—of robust stately habit, and with fine vermillion flowers; also to Charles Scorer, the finest and richest of all the varieties yet raised. This variety possesses a combination of good qualities—namely, dwarf habit, great freedom of flowering, good-shaped flowers, and colour of such a rich velvety crimson scarlet as is seldom seen in any flower. B. Davisii, a dwarf species, in this group was clear, bright, and dazzling; and B. roseiflora, another dwarf species, was very distinct and pleasing. The collection also included the double varieties Gloire de Nancy and Lemoinei. Messrs. Veitch also exhibited dwarf examples of the valuable conservatory decorative plant *Lisianthus Russellianus*; its fine, purple, Tulip shaped flowers were highly effective. The same firm also exhibited the new white *Hydrangea* Thomas Hogg, and owing to its distinctness, also, we presume, to its good keeping property, a first-class certificate was awarded. A few other plants were also exhibited by the same firm.

Mr. Pithers, The Gardens, Munster House, Fulham, also exhibited some seedling tuberous Begonias, one of which, *Illuminator*, was extremely brilliant and had fine flowers, but the plant was somewhat drawn and shaken. This class of Begonias especially, were they are not grown in too much heat, are invaluable for summer decoration.

Mr. B. S. Williams, Holloway, exhibited a small group of plants. *Croton* Queen Victoria was in splendid condition and was awarded a first-class certificate; it must rank as one of the finest of the genus. *C. fasciatus* had very large Magnolia-like foliage clearly veined with yellow. *Lobelia Lilac* Queen, a variety of the *Pumila* section, is a charming decorative plant, distinct in colour, close in habit, and pleasing. *Adiantum palmatum* and *Woodwardia radicans cristata*, two distinct Ferns, were included in this group.

Lælia Brysiana, with four spikes and seventeen grand flowers, was exhibited by Mr. Spyers, Orchid grower to Sir Trevor Laurence, Bart., M.P., Burford Lodge, Dorking, and for which a cultural certificate was awarded; also a fine plant of the remarkable *Brassavola Digbyana*, for which a medal was recommended; and the equally singular *Dendrobium Jerdenianum*. Mr. Selwood, gardener to the Duke of Westminster, Eaton Hall, exhibited a fine plant, like a fountain of gold, of *Dendrobium filiforme*. This plant was growing in a basket, and was a fine example of superior cultivation. A medal was recommended to be awarded to Mr. Selwood.

Mr. Mill, gardener to Lord Rendlesham, Rendlesham Hall, Suffolk, was awarded a first-class certificate for *Odontoglossum miniatum*, a splendid *Odontoglossum*, resembling in colour a fine variety of *Oncidium crispum*. The spike had eighteen fine flowers, and was much admired.

G. F. Wilson, Esq., F.R.S., exhibited cut blooms of *Lilium* eximium, *Robinsoni*, *Pardalinum*, *Kramerii*, *Martagon album*, &c., all very beautiful; also flowering spray of the hardy *Tropeolum speciosum*, which is so brilliant in Scotland, but which Mr. Wilson has proved will flourish in England if a cool place is selected for the plant. A vote of thanks was awarded. Messrs. Barr & Sugden, Covent Garden, staged a very gay collection of *Lilium* in about thirty sorts; also richly-coloured Irises, including *I. Kæmpferi* General Grant. H. J. Elwes, Esq., Preston, Cirencester, exhibited a very richly-coloured variety of *Lilium elegans*; also a spike of *Pentstemon Cobæa*, a pale purple species from Texas, which is seldom seen, and a vote of thanks was awarded.

Mr. Woodbridge, gardener to the Duke of Northumberland, Syon House, sent flowering sprays of *Stewartia* (*Stewartia*) virginica, a beautiful North American shrub with large white flowers resembling those of Clematises, and foliage very like that of *Syringa*; also *Cerasus ilicifolia*, and received a vote of thanks.

Messrs. William Paul & Son exhibited a collection of Roses raised at or first introduced to commerce from the Waltham Cross Nurseries—the finest collection of the kind that we have seen staged. Twenty of the varieties were named and six numbered. Amongst the former *May Quennell* was pre-eminent. It has the same stout petals as *Star of Waltham*, but is far superior to that good Rose, and indeed to all others of its colour—crimson suffused with magenta. It was certificated at a previous meeting. Some other Roses in this collection will be heard of again. The colour of one approaches to violet. Mr. Turner exhibited *Penelope Mayo*, a fine Rose of the *Marie Baumann* type; also a white Clove Carnation *Mrs. Matthews*,

pure, smooth, sweet, and altogether good, and for which a first-class certificate was awarded. Mr. Noble exhibited his new Rose Queen of Bedders, one truss of which was composed of twenty buds.

Mr. J. Croucher, gardener to J. Peacock, Esq., Sudbury House, Hammersmith, exhibited *Echinocactus grandicornis*, globular-shaped and about 8 inches in diameter, boldly ribbed and covered with extraordinary hooked spines 4 inches in length. A first-class certificate was awarded; and Messrs. Croucher & Boller, 73, South Row, Kensal New Town, staged several examples of the Old Man Cactus (*Piloceris senilis*), and received a vote of thanks.

Mr. Parker, Tooting, received a first-class certificate for *Lathyrus latifolius splendens*, a fine hardy perennial Pea with purplish-crimson flowers. Mr. Parker also exhibited blooms of the York and Lancaster Rose, and some *Liliums*. Mr. John Reeves, nurseryman, Acton, exhibited a collection of Balsams of an excellent strain. The plants were extremely sturdy and well flowered, and the flowers were large, perfectly double, and in distinct colours. The strain was highly commended, and a vote of thanks was accorded. Mr. James Pattick, florist, Acton, staged about a hundred "market plants"—well-grown examples of *Lycopodiums*, *Fuchsias*, *Kalosanthes*, and other plants in season, and received a similar award. The thanks of the Committee were also awarded to Mr. Cannell for collections of cut flowers of fine varieties of double and single *Geraniums*; also a plant of a variety correctly named Half-and-Half, half of the pips being rosy crimson and the other pale salmon; also for a *Geranium* half Zonal and half Ivy-leaf, and for cut blooms of *Mimulus* and Sweet Williams. A similar mark of recognition was made to Messrs. Downie & Laird, Edinburgh, for a collection of Pansies.

NATIONAL CARNATION AND PICOTEE SOCIETY'S SOUTHERN SHOW.

ROYAL AQUARIUM, JULY 18TH.

A WELL-ARRANGED schedule, numerous and liberal prizes, a tolerably fortunate date for holding the Show, a place where it could be seen to advantage, also a fine day, combined to render this field day of southern florists, or rather of florists in the south, a successful one. Possibly if the season had not been so late more blooms would have been staged, but they could scarcely have been finer. The finest flowers in the Show—those from Mr. Douglas and Mr. Turner—had been advanced under glass. Splendid blooms were staged by both those growers, and it is no small honour to Mr. Douglas that he was placed equal first with Mr. Turner in the class for twenty-four Carnations, while he fairly beat the great Slough champion in the corresponding class for Picotees.

The claims of florists' flowers to special patronage are great; their intrinsic beauty will always command admirers and able and ardent cultivators; but for some time past flowers for massing—flowers of brilliant hues, of rapid increase, easy culture, and quick display have been fashionable, while those of slower growth and requiring closer attention and greater skill to bring them to perfection, have suffered a certain and too great amount of neglect. Roses it is true have not been neglected, but much of their popularity—that is, the popularity of blooms of high quality, is due to the special efforts which have been made by the specialists, now known as rosarians. The Carnation, next to the Rose, ought to be the most popular of English garden flowers. It possesses the same attractive qualities as the Rose, while it is even more lasting in its beauty than the queen of flowers, as will be doubtless proved by the condition of the blooms during the second day of this real English Show of real British flowers. It is gratifying, therefore, that a few friends of the Carnation are still left in the south, and none having a real love for the flowers which they cherish can do otherwise than rejoice to find success attending what must be a work of considerable labour—pleasant labour, nor cease to hope that the efforts now made will give a stimulus to other cultivators, and result in adding new recruits to the florists' ranks, and to a Society whose object is so laudable as the Society which is in session to-day.

For once the Carnation has priority over the Rose—the Roses exhibited being a supplementary branch, and not an inappropriate one—a powerful ally, but only an ally, of a show of the Carnation. It was an opportunity for Roses being brought to Westminster, where surely they must be welcome—for one day at least; and for the sake of that one day of enjoyment to many, the few who can only view a faded or imperfect Rose with feelings of pain, must endure whatever share of disappointment falls to the lot of those who are "martyrs to circumstances."

But we must refer to the Show. We pronounce it without any reservation good—such a show of these hardy garden flowers that has certainly not been seen in Westminster before, if anywhere else; and the promoters of both sections of the Show—Mr. Dodwell of the Carnation department as the zealous Hon. Sec. of the National Society, and Mr. Bennett of the Rose department, the Aquarium Company's Floral Manager—are to be congratulated on the arrangements and results.

The boxes were arranged on two tables, and the plants in pots from Mr. Turner and Mr. Douglas added greatly to the effect of the Show. They were in 7-inch pots, each plant carrying six to twelve exhibition blooms.

CARNATIONS AND PICOTEEES.

CARNATIONS.—Four classes were provided, and forty-four prizes.

Class A, twenty-four blooms in not less than twelve varieties, brought out five competitors. The prizes were 70s., 50s., 30s., and 20s., and the winners of them were—first, Mr. Turner, Slough, and Mr. Douglas, gardener to F. Whitbourn, Esq., Loxford Hall, equal; second, Mr. E. S. Dodwell; third, Mr. T. S. Ware, Tottenham; fourth, Mr. Hooper, Bath. Mr. Turner staged Sybil (Holmes), Eccentric Jack (Wood), James Douglas (Simonite), Mary Ann (Fletcher), Ajax (Hextall), Duke of Edinburgh (Abercrombie), Merrimac (Woods), John Bailey (Dodwell), John Keet (Whitehead), Florence Nightingale (Sealey), Sportsman (Hedderly), Flora's Garland (Holmes), Mr. Hextall (Simonite), Squire Trow (Jackson), Annihilator (Jackson), and Admiral Curzon (Eason). Mr. Douglas had James Douglas, Admiral Curzon, Lovely Ann, J. D. Hextall, Rose of Stapleford, Mr. Battersby, Samuel Newman, Rifleman, Premier, Dreadnought, Falconbridge, True Briton, John Keet, Earl of Stamford, Mars, Sarah Payne, John Bailey, Juno, James Taylor, Lord Raglan, The Clipper, and Marshal Ney.

In Class B, for twelve blooms, the six prizes offered were awarded as follows:—First, Mr. Douglas; second, Mr. Dodwell; third, Mr. John Hines, Ipswich; fourth, Mr. S. Bertram, Woodbridge; fifth, Mr. J. Buxton, 32, Wandsworth Road, London; sixth, Mr. Catley, Bath. Mr. Douglas staged grand blooms of John Keet, Marshal Ney, Admiral Curzon, James Douglas, True Briton, J. D. Hextall, The Clipper, Rifleman, Sportsman, Mary Ann, Satisfaction, and Premier. Mr. Dodwell's blooms were rather smaller, but most of them were highly finished, especially James Merryweather, True Briton, John Keet, Sportsman, and Mrs. Dodwell, rose flake, very beautiful.

In Class C for six blooms there were four competitors, the awards being made in the following order:—First Mr. A. Medhurst, 32, Priory Road, Wandsworth Road; second Mr. Ellis, Wandsworth Road; third Dr. Abercrombie, Cheltenham. The first-prize collection consisted of James Douglas, John Bailey, Admiral Curzon, Mars, John Keet, J. D. Hextall.

Class D, single specimens. In *Scarlet Bizarres* Mr. Douglas was first, second, and fifth with Admiral Curzon, and third with Companion; and Mr. Hines was fourth with Lord Randolph. *Crimson Bizarres*.—Mr. Turner was first with Unexpected, and second with Mr. Hextall; Mr. Douglas being third, fourth, and fifth with Marshal Ney, John Hextall, and Graceless Tom respectively. *Pink and Purple Bizarres*.—Mr. Turner was placed first, second, and fourth with James Taylor, and third and fifth with Sarah Payne. *Purple Flake*.—Mr. Turner was first with True Blue, second and fourth with James Douglas; Mr. Hines third with Mayor of Nottingham, and Mr. Turner fifth with Ascendant. *Scarlet Flake*.—Mr. Turner was first with Sportsman and fourth and fifth with Annihilator, and Mr. Douglas was second and third with Sportsman. *Rose Flake*.—Mr. Turner was first and third with Sybil, Mr. Hine was second with the same variety, and Mr. Turner was fourth with Mary Ann and fifth with John Keet.

Premier Carnation selected from the whole Exhibition.—This proud honour was won by Mr. C. Turner with Sybil.

PICOTEEES.—The number of prizes and the amounts offered were the same as in the Carnation classes.

Class E, for twenty-four blooms, brought out five competitors, and the prizes were awarded as follows:—first Mr. Douglas, second Mr. C. Turner, third Mr. Dodwell, and fourth Mr. Ware.

Mr. Douglas's collection contained splendid blooms of Mr. Price, Obadiah, Mrs. Bower, Mrs. Allcroft, Mary, John Smith, Edith Dombrain, Prima Donna, Princess of Wales, Ann Lord, Miss Small, Mrs. May, Mrs. Little, Lord Valentia, Ethel, Gany-mede, Picco, Juliana.

In Class F, twelve blooms, there were seven competitors, with the following result:—Mr. Douglas was first again with grand blooms; second Mr. Dodwell; third Mr. Buxton; fourth Mr. Bertram, Woodbridge; fifth Dr. Abercrombie; sixth Mr. Hines.

In Class G, for six blooms, the following exhibitors were successful:—First Mr. Medhurst; second Mr. Ellis; third Mr. Gibson, gardener to T. F. Burnaby Atkins, Esq., Sevenoaks. The first-prize collection consisted of Leonora, Mrs. Niven, Alice, Juliana, Clara, and J. B. Briant.

Single Specimens.—*Red Heavy-edged*.—Mr. Bertram was first with Col. Clarke; Mr. Douglas second with Princess of Wales; Mr. Turner third and Mr. Hines fourth with Princess of Wales; and Mr. Turner fifth with Rev. F. D. Horner. *Red Light-edged*.—Mr. E. S. Dodwell was the only exhibitor, and had the first prize with Thomas William. *Purple Heavy-edged*.—Mr. Turner was first with Leah; Mr. Douglas second and fifth with Chanticleer, and third with Mrs. May; Mr. Turner being fourth with Cynthia. *Purple Light-edged*.—Mr. Douglas was first and third with Mary; Mr. Turner was second with Cynthia, fourth with

Harland, and fifth with Alice. *Rose or Scarlet Heavy-edged*.—Mr. Turner was first with Lady Louisa, second with Leonidas, fourth with Venus, and fifth with Gem of Roses; and Mr. Hooper was fourth with Princess Alice. *Rose or Scarlet Light-edged*.—Mr. Douglas was first with Mrs. Allcroft, second with Ethel; and Mr. Turner was third, fourth, and fifth with Miss Wood, Mrs. Allcroft, and Miss Wood respectively.

Premier Picotee selected from the whole Exhibition. This high prize was won by Mr. Douglas with John Smith.

Yellow-ground Picotees, twelve blooms in not less than six varieties, the prizes went in the following order—first, Mr. T. S. Ware, Tottenham; second, Mr. Catley, Bath; third, Mr. Hooper, Bath. These were generally small and not particularly attractive.

Miscellaneous, *Sells or Fancies*.—In the class for twenty-four blooms in twelve varieties there were six competitors with the following result—first, Mr. C. Turner; second, Mr. Douglas; third, Mr. J. Buxton. Mr. Turner's blooms consisted of The Bride, Dr. Foster, Ambassador, James Merryweather, Flora's Garland, Lady Avenel, Albert, Golden Queen, Seedling, Sultan, Sybil, Elysian Beauty, Ajax, Unexpected, Mars, Cremorne, and Bridegroom. Twelve blooms *Sells or Fancies*—first, Mr. Turner; second, Mr. Dodwell; third, Mr. Cooper. Two others competed.

Plants in Pots.—"Twelve specimens, dissimilar (from any or all of the classes, including Tree Carnations), in pots not exceeding 8 inches in diameter." Mr. Turner and Mr. Douglas were awarded equal first prizes.

THE ROSE SHOW.

"A TWO-DAY Rose show and you at it! Fie, Fie, "WYLD SAVAGE." Where are your principles? Was it not you as much as anyone else—nay, were not you foremost at the National Meeting in repudiating such shows? And you to be at the Aquarium judging and showing, and then having the audacity to write about the Show, to publish your shame to the whole Rose world! I am ashamed of you, I blush for you."

Such I can well imagine may be the comments of some of your readers, particularly of one "LOVER OF CONSISTENCY," who in Journal and Chronicle has uttered his solemn warning and made us all tremble in our shoes. Well, I own it looks bad upon the face of it, but there are redeeming features about even this case. First, my proposal that we should pledge ourselves not to show at two-day exhibitions was opposed by all, and what we did was to resolve to do all in our power to discountenance these shows; secondly, this is not a regular Rose show, and at the meeting it was particularly objected by the great nurserymen to my proposal, that often Roses were affiliated to several horticultural or even agricultural exhibitions, and in my eagerness to pass my resolution I said, Of course excepting "mongrel exhibitions." So that even if we had pledged ourselves not to show we should be free from censure in this case, for it is the Show of the National Carnation and Picotee Society, and Roses are only added for the sake of variety, and to attract, I suppose, more visitors.

Then, next, if I am a sinner in this case I am not alone but in good company, for the question is, Who was not at the Aquarium? not who was. All the great nurserymen were there, and the leading amateurs, so do not be too hard on us dear Consistency, for we have very tender feelings, and it is the last show of the year, and our season is such a brief one, and there are (comparatively) so few shows, and we rosarians really cannot afford to lose an opportunity of meeting together at the court of our queen. What a beautiful place the Aquarium is for a Rose show. Here is space, light, no steps to drag our boxes up, civility, attention, a good place for the refreshment of the body and mind, a fine orchestra, and a hearty welcome. What more can we want? Perhaps the light on a very sunny day is a little too strong for our blooms, but we cannot have everything, and no doubt the authorities will some day put up an awning, when we shall have everything we want.

And now for the Show. What of it? I can imagine that in future years anyone who by chance came on my account of this Show might exclaim on seeing the date, "The 18th of July, and a Rose show in London! Surely it must have been a miserable failure, for what Roses would be worth anything so late as the 18th?" Well, it was not a failure, but very much the reverse, and the Roses were very fine, and the fixture was a remarkably good one, for a more exceptional season I for one never knew. When I remember that the first show of the year was at the Crystal Palace on Midsummer eve, and that the last was on the 18th of July, and that at each show Mr. George Paul and Mr. Turner showed, and showed finely, I am struck with amazement at the length of time their Roses held out. For nearly a month these great nurserymen have shown Roses, and shown them well too. And this is the more remarkable when we consider what scorching weather we have had in July. Mr. Cant was about a week behind his great rival, but when he was in bloom he was quite up to his old form. Mr. Cranston is always the latest of the quintet, but when his time does come how grand are his blooms! The Aquarium fixture just suited him, and

glad am I for one that this good fellow and fine rosarian should at last have one London show which was not too early for him. The distance that he lives from town must always handicap him; and when to this is added the exposed situation of his extensive nurseries, it is a marvel to me how he manages to show as well as he does at the metropolitan exhibitions. Mr. Keynes has also a very late soil and an exposed nursery, added to which his soil is one of the poorest that can be imagined, except where his standards and Dahlias are cultivated. In fact, his soil is as poor, or nearly so, as mine. The prizes at the Aquarium were exceedingly liberal when the number of blooms required for the various classes is taken into account, and I cannot too highly commend the Secretary or Manager who drew out the schedule for his liberality and discretion in making the classes easy for all growers. The leading class for the trade was for forty-eight varieties, and for this £5, £3, and £2 was offered. The head amateur classes were for twenty-four distinct and twelve trebles, and for these £4, £3, and £2 were given. Then there were classes for twelve Tea and six blooms of one Tea, and other miscellaneous classes. And now for the Roses, or rather for the prizes which were awarded for them, for time does not permit a comment on the several collections.

In the chief nurserymen's class, forty-eight varieties, single trusses, the prizes went in the following order:—First Messrs. Cranston & Co., Hereford; second Mr. Cant, Colchester; and third Messrs. G. Paul & Son, Cheshunt. In the next class—twenty-four varieties, trebles—Messrs. Cranston & Co. again had the premier place, followed by Mr. Turner, Slough, and Mr. Corp, Oxford. For twenty-four single trusses Mr. Corp was first, Messrs. Cranston & Co. second, and Mr. Bennett, Stapleford, third; and for twelve single trusses the prizes went to Messrs. Corp, Turner, and Bennett in the order named.

AMATEURS.—In the class for twenty-four Roses, distinct, single trusses, Mr. Jowitt, The Old Weir, Hereford, was placed first, Mr. Baker and Rev. E. N. Pochin equal second, and Mr. Davis, Wilton, third. For twelve trebles the awards went to Messrs. Baker, Camm, and Davis in the order named. In the class for eighteen singles Mr. Pochin was first, Mr. Jowitt second, and Mr. Davies, Aynhoe, Banbury, third; and for twelve blooms Mr. Pochin again had the first place, followed by Mr. Pemberton, Romford; Mr. Burnaby Atkins, Sevenoaks; and Mr. Whitwell, Darlington, in the order of their names.

OPEN CLASSES.—In the class for twelve Tea or Noisette Roses Mr. Cant was placed first, Mr. Corp second, and Mr. Davies, Aynhoe, third. For six blooms of any one sort of Tea or Noisette Mr. Tranter was first with *Maréchal Niel* in grand colour; Mr. Davies was second with almost equally good blooms of the same variety; and Mr. Keynes third with *Marie Van Houtte*. For six blooms of any one sort of Hybrid Perpetual Mr. Cant was first with splendid examples of *Alfred Colomb*, Messrs. G. Paul & Son second with *Duke of Edinburgh*, and Mr. Corp third with *Mlle. Marie Cointet*. The last class in the schedule was for six new Roses of 1875 or 1876. Mr. Turner, Slough, won easily with *Sir Garnet Wolseley*, J. S. Mill, very fine; *Maréchal Robert*, Prince Arthur, very fine; *Jean Liabaud*, and a splendid bloom of *Madame Prosper Langier*. Messrs. G. Paul & Son were second with Mrs. Baker, *Jean Liabaud*, *Royal Standard*, *Avocat Duivier*, and *Marguerite Brasseur*; and Mr. Corp third with fresh examples of *Duchesse de Valombrosa*, *Jean Souperet*, *Madame F. Janin*, *Jean Liabaud*, *Star of Waltham*, and *Abel Carrière*—all in excellent colour.

Many of the blooms exhibited bore unmistakeable signs of the lateness of the season and of having received rough usage by the late storms, yet many more were of undeniably good quality, and the colour of the darks and yellows was perhaps unusually rich; but more anon.—WYLD SAVAGE.

Seventy-two varieties of *Verbenas* from Mr. Turner, Slough, were highly effective, as were the plants of *Lilium auratum* from the same cultivator, which were placed down the centre of the tables. Mr. Cannell staged twenty-four varieties of *Verbenas*, and it is not too much to say that the collections of these flowers were as much admired as the Carnations and Roses. Mr. Turner also exhibited his fine new white *Clove Mrs. Matthews*, the blooms much resembling perfect *Gardenias*. Mr. Ware, Tottenham, staged a large collection of Carnations and *Pansies*; Mr. Hooper, Bath, also exhibiting *Pansies* well. Mr. Corp, Oxford, staged a large and charming collection of Tea Roses, and Mr. R. Dean submitted fine examples of *Mauve Queen Stocks*. The Vines in pots from Messrs. Lane & Son, Great Berkhamstead, attracted considerable attention.

The Show continues open this day (Thursday), and is highly worthy of a visit by all admirers of Carnations. The Roses on the second day, like many of the trees and plants in the Aquarium, will, of course, be dead or dying.

NOTES AND GLEANINGS.

It is gratifying to observe how much encouragement is being given to promote DOMESTIC FLORICULTURE IN LONDON. City flower shows are of weekly occurrence, and are doing

much, especially when patronised by ladies of rank and aided by the clergy, to improve the tastes of an important section of the community. One of the last of the city flower shows was held in the parish of St. Philip's, Clerkenwell, when H.R.H. the Marchioness of Lorne distributed the prizes; and Lord Selborne, speaking on the cultivation of flowers, remarked that "nothing was more important to religion and morality than the cultivation of what was natural, and pure, and beautiful. Natural tastes, natural manners, natural habits, natural affections were, they might depend upon it, much better than what was artificial, and therefore the love of nature was a great means of education, and he knew of no branch of the manifold varieties of natural objects more calculated to purify and sweeten the taste, and with the taste other qualities, than a love of flowers."

— At the meeting of the Prince Consort's Royal Association at Windsor on the 13th inst. Messrs. Sutton, the Queen's seedsmen, exhibited a beautiful collection of ANNUALS grown at their seed farm, Reading. It consisted of upwards of two hundred varieties.

— WELL may it be said that Kent is the garden of England, for Mr. Cannell states that his neighbour Mr. Vinson sent to market last Wednesday 2500 pecks of STRAWBERRIES. This, reckoning 14 lbs. to the peck, would amount to upwards of 15½ tons.

— THE BEDDING-OUT IN MR. RALLI'S garden at Cleveland House, Clapham Park, has been completed by Mr. Legg, who has won a foremost position by the excellence of his work in artistic garden decoration. In the planting of eight beds and a border fully 200,000 plants have been employed. They are arranged in a different, but none the less effective, manner than in former years. Mr. Legg is an originator, not a copyist, and modes of beautifying flower beds are annually seen in this garden which have not been seen before. By the kindness of the owner of the garden the public will have the privilege of inspecting the beds during Fridays in the months of August and September. It is expected that the garden will be open to visitors on the first Friday in August—not before—when a display of no ordinary character will be provided in these flowerless yet beautiful beds. The term "carpet bedding" is no longer applicable to some of these beds, for the bold yet clearly-defined irregularity of surface is foreign to the nature of a carpet, and artistic bedding becomes the more appropriate term. Some of the beds are extremely chaste and striking.

— SINCE there is evidence that the COLORADO BEETLE has by some means effected a passage across the Atlantic we must be prepared for rumours of an alarmist nature of its appearance in Britain. We are glad that the account which we cited from the *Daily News* last week of the appearance of the beetle at Dublin proved incorrect; but it is none the less necessary that a good look-out must be kept for the enemy to prevent its gaining a footing on our shores.

— WE regret to announce the DEATH OF MR. PETER DRUMMOND, late of Stirling, which took place at Wardie Road, Edinburgh, on the 9th inst. in the seventy-ninth year of his age. Mr. Drummond was for many years the head of the old-established nursery and seed business of W. Drummond and Sons; and it was mainly to his untiring energy that the house attained the wide reputation it acquired. With him the idea of forming an Agricultural Museum first originated; and he was also the founder of the Tract Institution at Stirling, which became so widely known throughout the world.

— WHAT in many seasons would be very commonplace becomes this season noteworthy—A CROP OF APPLES. We recently saw in the gardens of Munster House, Fulham, a long row of dwarf trees, every one of which is now laden with fruit. The trees are several years old, and on every branch of every tree the fruit hangs like "ropes of Onions." We do not remember ever observing a heavier crop of Apples on any trees. The soil is good and the situation low, and the blossom did not receive any protection. Every tree is of the same sort, and that sort the Hawthornden.

— WE record the DEATH OF MR. WOOD, late gardener at Ravensworth House, Fulham, for two reasons—first because of his great length of service in the same family, and secondly because of the unusual cause of his death, which resulted from he cutting of a corn and mortification ensuing. Mr. Wood was gardener at Ravensworth House first to the Hon. Thomas Liddell and subsequently to the late and the present Lord Ravensworth, his term of service extending over thirty-five years. He died on the 10th inst in his sixty-sixth year; he

was an industrious and trustworthy man, and was much respected in the neighbourhood in which he lived so long.

THE CAPER PLANT (CAPPARIS SPINOSA).

THE Caper grows abundantly in the south of Europe, along the shores and on the islands of the Mediterranean, and in Syria. It is generally found wild on walls and rocks; it is met with on the walls of Rome, Sienna, and Florence, and is extensively cultivated in the south of Europe, particularly between Marseilles and Toulon, and in many parts of Italy; but it is from Sicily that the greatest supply is brought. The flower buds form the Capers so much used as a pickle and a sauce, but in some parts the fruit is also employed. In the early part of summer the plant begins to flower, and the flowers continue to appear successively till the beginning of winter. The young flower buds are picked every morning, and as they



Fig. 18.—The Caper Plant (*Capparis spinosa*).

are gathered they are put into vinegar and salt; and this operation continues for six months, as long as the plants are in a flowering state. When the season closes, the buds are sorted according to their size and colour, the smallest and greenest being the best; these are again put into vinegar, and then packed-up for sale and exportation. Capers are stimulant, antiscorbutic, and are much employed as a condiment, but the medicinal virtues of the plant reside in the root, which is slightly bitter, somewhat acid and sour, and is diuretic.

The Caper is, according to Dr. Royle, the Hyssop of Scripture (*esob* or *esof*), "which springeth out of the wall," of which Solomon spoke. It produces long trailing branches of sufficient length to be used as a stick, on which the sponge filled with vinegar was offered to our Saviour when on the cross. "They filled a sponge with vinegar and put it upon Hyssop," says John (chap. xix. verse 29), and this accounts for the seeming discrepancy which some writers fancy they detect between John's and Matthew's account of the crucifixion, because the latter says they "put it on a reed." It is the same plant which was used by the children of Israel to sprinkle the blood on the door-posts at the institution of the Passover.—(*Hogg's Vegetable Kingdom*.)

WRITERS ON ENGLISH GARDENING.—No. 33.

ROBERT THOMPSON.

MR. THOMPSON was born at Echt in Aberdeenshire early in September, 1798. The precise date of his birth is not known, as at that period the birth registers of Scotland were not preserved with that care with which they are now. But from his baptism having been on the 16th of October in the same year, we may reckon with some degree of certainty that this ceremony was performed, as it usually is in Scotland, a month or six weeks after birth. His father was a small farmer, and

after he had received the solid education of his native parochial school he was placed under his uncle, who was gardener to Mr. Skene of Skene, where he was employed in the garden and plantations. He then removed to Haddo House, the seat of the Earl of Aberdeen, where he remained till 1820, and then left for the garden at Dunottar Castle, the residence of Lord Kennedy. After remaining there for one year he removed in November, 1821, to the gardens of Robert Ferguson, Esq., of Raith in Fifeshire, where he was for nearly three years.

In 1824 Mr. Thompson reached London, and went directly to the garden of the Royal Horticultural Society at Chiswick, to which he had been recommended by his late employer's brother, Sir R. Ferguson. The garden was then nearly completed; the collection of fruit trees had just been planted, some

of them, which were worked on Paradise stocks, were coming into fruit; and the walls which enclose the orchard and kitchen garden had then been just finished. Mr. Thompson was at once placed in the fruit department, which was then superintended by Mr. Christie, and no time could have been more opportune for his entering on his duties, as from the first he had under his observation the immense collection of fruits which then and subsequently has existed in the gardens. Early initiated by Mr. Knight and Mr. Sabine into a knowledge of the characters and merits of the then existing varieties, Mr. Thompson acquired a knowledge and taste for the study of fruits and fruit trees which increased with his years, and which he retained to the last. During the whole of the forty-four years of his active life at Chiswick pomology was his special

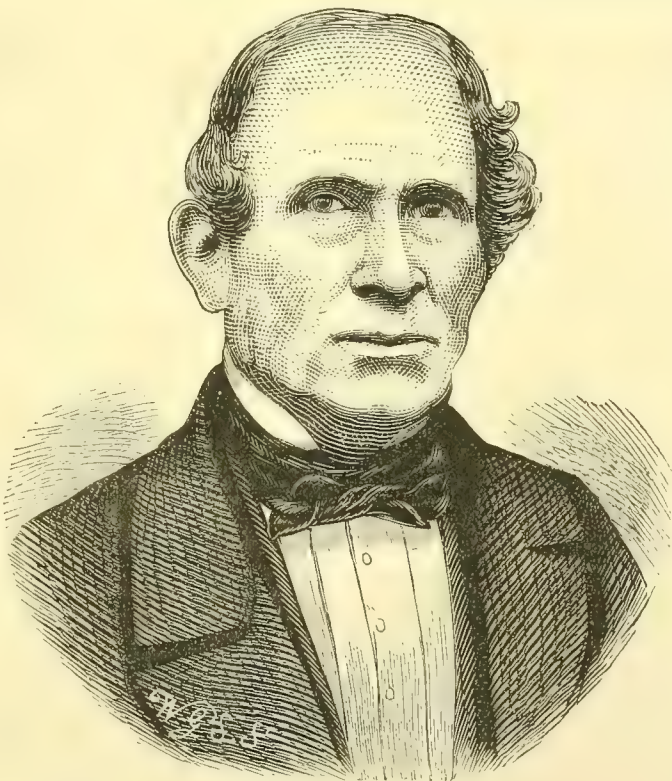


Fig. 19.—MR. ROBERT THOMPSON.

and passionate study, not only as it was exhibited under his eye in the garden, but in the literature and practice of the pursuit as existing on the Continent. It was this well-grounded and thorough knowledge of the subject which enabled Mr. Thompson so well to produce that laborious work, the "Catalogue of Fruits Cultivated in the Garden of the Horticultural Society of London," which has formed the foundation of modern pomological synonymy. No one except such a person as Mr. Thompson could have done this work so well. His proverbial patience and painstaking, his excessive care and caution, admirably fitted him for such a work, and stamp it with an authority which has never been assailed. It was not, however, in pomology alone that Mr. Thompson excelled. Every department of horticulture received from him its due share of attention; and not in the practice only, but also in the higher principles of the pursuit, did Mr. Thompson eminently shine. His love of physical science was equalled only by his love of gardening; and his knowledge of mathematics was of a high order. No better evidence of the combination of these qualities can be given than that which is furnished in that admirable compendium of horticulture "The Gar-

deners' Assistant." Meteorological science is much indebted to him for the constancy and correctness of the observations he conducted at Chiswick from 1830 till within a few months of his death, a period of thirty-nine years. And here we may take the opportunity of noticing a remark we sometimes have heard made by others who note meteorological observations. Doubts have been expressed as to the correctness of the instruments used at Chiswick. It has been said that the temperatures announced by Mr. Thompson were, when excessive, too high or too low, and that they did not correspond with those of other observers. It is, nevertheless, a striking fact that on an average of thirty years' observations—from 1826 to 1855—the difference in the records of mean temperature between Chiswick and Greenwich amounts only to 0.06°—a lasting tribute to the care with which the Chiswick meteorological observations were made.

Mr. Thompson was a voluminous writer, though he does not appear as the author of many works. In the "Transactions of the Horticultural Society," besides the bulky meteorological tables, there are many valuable papers on horticultural subjects. To Loudon's "Gardener's Magazine," the *Gardeners'*

Chronicle, the "Edinburgh Philosophical Magazine," and other periodical publications he was a frequent contributor. In the preparation of most of his great works Mr. London acknowledges the aid rendered by Mr. Thompson, and especially in the "Encyclopædia of Gardening" and the "Suburban Horticulturist." He contributed also to the "Penny Cyclopædia," Morton's "Cyclopædia of Agriculture," Maunder's "Treasury of Botany," and we believe he was the sole author of the letter-press of the "Pomological Magazine."

Towards the close of his career a tribute to the services he had rendered to horticulture was paid to Mr. Thompson, by the presentation of a testimonial, amounting to the sum of £400, raised by public subscription, and on the end of his active services in connection with the Royal Horticultural Society he retired on full pay. He died on the 7th of September, 1869.

A portrait—as good as is obtainable—of this excellent gardener, able writer, and worthy man will be acceptable to many, especially to the great number of our readers who have profited by his practice and teachings.

AN ELECTION OF TEA ROSES.

IN your issue for June 28th I observe that Mr. Hinton has again undertaken his labour of love—the Rose election, or rather the exhibition Rose election. I am sure all amateur cultivators of the Rose feel deeply grateful to Mr. Hinton for his great trouble in bringing thus periodically before us the *crème de la crème* of Flora's queen. I for one return him my most sincere thanks, as I have been profited and greatly interested in former elections, so I shall look forward anxiously to the declaration of the poll in the present one. I much wish for an election of those fair jewels the upper ten of our queen's court—viz., Tea Roses. The question I propose would be, Name the best twenty-four exhibition Tea Roses, marking the twelve hardiest, best growers, and freest bloomers.

Can any of your readers give me their experience of Abel Grand as two-year-old cut-backs? With me it barely manages to exist after the first year, each shoot after being pruned dying back several inches before pushing a bud, and then in a most weakly manner. The plants are on the Manetti; my soil being a light sandy loam on gravel.

Yet another question. Has anyone observed that the shoot on which zinc labels are tied dies? With me fully seven-tenths of them do so. How is this? They are tied on quite loosely, some with tarred twine and others with lead wire.—A TYRO, Co. Down.

[To this proposition I hardly know how to reply. But firstly, gratefully as to the kind expressions bestowed on past labours; secondly, hopefully as to the exhibition election, in which I fancy there will be even harder labour than heretofore, but in which I shall still try to do justice to the queen of flowers; lastly, in a spirit of procrastination. Acknowledging all the loveliness of the Teas, I feel that I shall have my hands full; but if spared to try another year, such an election as the one proposed with one of best garden Roses is what I thought would be useful.]

As to Abel Grand, my experience is that it does not like the Manetti. I should say, Try it on its own roots or on the seedling Briar.

I cannot explain the injuriousness of zinc labels, and certainly have not noticed it. I rarely tie my labels on the plant itself, but on a stick close by.—JOSEPH HINTON.]

WASPS.

WASPS are a great annoyance to any person who has fine fruit, for they not only destroy the fruit, but one is not safe in pulling Plums, Apricots, &c., from being stung. I was very much troubled with wasps when gardener to the Earl of Wemyss, but I waged war against them in real earnest, and the fruit was saved. Besides killing all the queen wasps that could be caught in April and May, about the middle of July when the nests were getting strong so that there was no difficulty in seeing them, during a calm sunny day I went with four men and walked over the plantation and burnside near to the garden, and as soon as a nest was found a stick with a white rag on it was stuck up, and the following day two men were sent to kill it; and if thirty nests were destroyed the men took thirty full-sized bottles about half-full of water and plenty of strong match paper made with saltpetre and coarse paper. Sixpence-worth will do for a hundred nests. It is safe to be liberal with the match paper, or the wasps might

not inhale enough to sicken them; and on digging out the nest, if they can fly, they will attack anyone near them, but if the digging the nest is carefully done not one wasp will get out. In setting fire to the match and when fairly burning, a bit of turf to keep in the smoke should be put on the hole for three minutes, and then knock them into jelly; and sink a bottle as near the nest as possible quite level with the ground, and the wasps will tumble in at railway speed, and if the nest is not very strong one bottle will hold all the wasps, but in September it will require two bottles. I have seen two crammed and about 1200 in each. The wasps coming in from their work seldom or never attempt to sting, unless the nest is under a bush; but if a nest is opened and the wasps have not enough of smoke to sicken them, and they happen to come out a retreat is necessary; but if gloves are used and a veil, then one can dig away with impunity. One season upwards of three hundred nests were killed at Gosford.—J. ADDISON, Ormiston, Edinburgh.

NEWCASTLE BOTANICAL AND HORTICULTURAL SOCIETY'S SUMMER SHOW.

AFTER a career extending over half a century this Society has latterly exhibited new life, and has given a great impetus to horticulture, in the north particularly, while it has not been without influence in the country generally, for it has secured support from the south as well as the north, and which has enabled the Society to provide the best show ever held in Newcastle. The Hon. Secretaries, Mr. Taylor and Mr. French, are evidently believers in the old French adage that "Heaven helps those who help themselves," and they, with the aid of an able Committee, commenced working in a zealous and withal systematic manner. Their object was to devise a plan which promised to provide a great horticultural display at a moderate charge, and to fix a deserving public institution on a solid foundation. The results have been extremely gratifying, for no less than 1300 new members were enrolled under the new system in less than two months, and at the time of the spring Show the list of members contained about 1500 names. The number has since doubled, and there is at present upwards of 3000 members, whose subscriptions yield about £1500. It is pleasing to note that the scope of the Society extends beyond exhibitions, for besides providing three shows annually—in the spring, summer, and autumn, the Society aids the Flower Mission and the Children's Flower Show and Window Gardening; and we understand that it contemplates conferring a benefit upon the public by planting in the Leazes Park a considerable number of fine trees to be brought from abroad.

The last and greatest show was held in Leazes Park, and it appears to have been as successful as it was extensive and well arranged. The plants, &c., were grouped in five marquees, placed parallel to each other, containing 20,000 square feet, and so arranged as to display the contents of all at one time, except where the view was intentionally broken by Fuchsias and other light and graceful plants. All woodwork was covered with paper, the whole having been handsomely decorated by Messrs. Carnegie & Gullachsen. The flowers, &c., both in quantity and quality, were equal to those seen at the best exhibitions of the year. During the two days of the Exhibition there was nearly twenty thousand visitors. Nearly nine thousand persons entered the show ground during the second day. Between noon and four o'clock, when the admission was 1s., the amount received at the gates was £70, and the sum realised by the 6d. rate in the course of the evening was £142. On the first day £258 was taken, making a total of £470 paid for admission during the two days. Since Monday week £130 has been paid by the new members, so that there will be handed to Mr. Councillor Gray (the Hon. Treasurer and also the Chairman of the Society), the sum of £600 which the Society has received within ten days. Yet while commanding an income probably ten times the amount of that which it formerly had at its disposal, the Society has, of course, increased the value of its premiums to a very great extent. For instance, for a collection of greenhouse plants, to which the sum of 7s. 6d. was awarded in 1872, £10 is now given, and the total amount of premiums, which was formerly perhaps not more than £60, is for the present Show £550. The general expenses of the Exhibition have also largely increased—the total cost of the Show is estimated at £800, and exceeds the subscription income; but a favourable balance is secured by the money paid for admission, whilst the large additions which are expected to be made to the membership will, it is confidently anticipated, place the Society in a sound condition financially. The backwardness of the season in the north of England has retarded the growth of nearly all kinds of plants and flowers. Local exhibitors, though they showed well, were therefore scarcely up to the standard of some former years, and the splendour of the Show was in a great measure due to the numerous entries of floral cultivators in the south.

Amongst the exhibitors who did not compete, and whose contributions occupied the circular or entrance tent, there were Mr. B. S. Williams of Victoria Nurseries, Upper Holloway, London; Mr. Watson of Fenham Nurseries; Messrs. S. Nairn & Son, Pilgrim Street; and Mr. Isaac Charlton, South Parade Nursery, Newcastle; Messrs. Stuart & Mein, Kelso; Messrs. Birkenhead, Sale Nurseries, near Manchester, and many exhibitors of garden requisites. Mr. B. S. Williams staged in the central entrance marquee a handsome collection of plants, many of them not yet in commerce. Sixteen of the plants were sold for a hundred guineas to one of the officials of the Show, Colonel Joicey of Newton Hall, and many other large sales were effected by the different nurserymen present. A very concise catalogue containing an alphabetical list of all the exhibitors, also the position they held in each class, was issued immediately after the awards were made.

The following were the successful exhibitors in the classes for plants:—The prize (£10 and the Silver Knightian Medal) for six plants in bloom was gained by Mr. E. Tudgey, gardener to T. F. G. Williams, Esq., Henwick Grange, Worcester; and Mr. R. Sleightholme, Armley, Leeds, was the winner of the first honour, £5, for three plants in bloom. The first prizes for ornamental-foliaged plants were won by Mr. Tudgey and Mr. A. Methven, gardener to Mr. Theodore Lange, Heathfield, Gateshead. The winners of first prizes for Ferns were Mr. Tudgey and Mr. T. Wilson, Normanby Hall, Middlesbrough. The chief honours in other classes of plants were won by Mr. Tudgey; Mr. Sleightholme, gardener to Mrs. Wood, Armley, Leeds; Mr. Henry May, Bedale; Mr. James Sanderson, gardener to Mr. W. H. Parker, The Elms, Gosforth; Mr. George Stockley, Elswick Park; Mr. W. Moul, gardener to Earl Ravensworth, Ravensworth Castle; Mr. J. Herbert, Grammar School, Durham; Mr. P. Sherwin, gardener to Mr. J. Young, Netherford; Mr. Thos. Battensby, Haghill (Bronze Knightian medal), and Mr. George Murray, Dipton.

CUT FLOWERS.—Of these the Roses were the chief exhibits. Many splendid blooms were staged, and no part of the Show was more greatly enjoyed by the visitors than the Rose classes. The county prize of £5 and silver Banksian medal were won by Mr. C. Turner, Slough, in the class for forty-eight blooms in not less than twenty-four varieties, followed by Messrs. G. Davison and Co., Hereford, who were placed second, and Messrs. Cranston and Co. third. The Mayor's prize for thirty-six Roses was won by Messrs. Cranston & Co., Mr. Turner second, and Messrs. Davison third. They held precisely the same positions in the class for twenty-four blooms; while for twelve blooms Messrs. Davison & Co. had the premier place, as they were also in the class for Tea-scented Roses, Mr. Turner second, and Mr. Whitwell, Barton Hall, Darlington, third. Mr. Thomas Flowdy, Gateshead, won the chief prizes for yellow Roses, and Mr. Laws, Ponteland, was awarded the first prize and bronze Banksian medal for twelve blooms with buds attached. Amongst other winners of prizes for cut flowers were Mr. John Harland, Arthur's Hill; Mr. R. Scott, Arthur's Hill; Mr. W. J. Watson, Fenham; and Mr. W. Moul.

The silver cup presented by the President, Major Woods, for the best and most tastefully arranged table decoration of flowers, plants, and fruits, was gained by Mr. M. Thompson, gardener to Mr. Lindsay Wood of South Hill, and the second prize was won by Mr. J. Gellender, Newcastle. Amongst the other winners of prizes for table decorations were Mr. R. Sleightholme, Mr. E. Tudgey, Mr. M. Larke, gardener to the Rev. R. F. Wheeler, Whitley Vicarage; Mr. A. Develen, gardener to Mr. Joseph Davison, Benton; and Mr. Thomas Ramshaw, Dryburn, Durham.

FRUIT.—The principal prizewinners were Mr. Wm. Moul; Mr. C. H. Letts, gardener to the Earl of Zetland, Upleatham; Mr. John Hutchinson, gardener to J. J. Hunter, Esq., Whickham Grove; Mr. Thomas Wilson; Mr. J. R. Jowsey, Sedbury Park, Richmond; and Mr. R. Lundt.

The officials of forty-one horticultural societies in Northumberland and Durham were invited to the Show, and 260 boys from the *Wellington* training ship, under the command of Capt. Roccock, attended the Exhibition and went through their evolutions in front of the marquees.

ROSES EUGÉNIE VERDIER AND MDLLE. MARIE FINGER.

Will you allow me to enter a protest against the idea, started by "WYLD SAVAGE" and endorsed by Mr. Hinton, that E. Verdier and Marie Finger are the same Rose under different names? Can it be that "WYLD SAVAGE" has no eye for colour, or is it that he has not grown Marie Finger in a sufficiently large quantity to form a correct judgment? I have had two lines of these two Roses side by side this season, and can most positively affirm that Marie Finger is at least two shades darker than Eugénie Verdier as grown here. As a Rose I consider the former superior to the latter in every way.

It is of better habit, freer growth, and the flower is much more lasting and of better shape; and I think the majority of rosarians will agree with me that it is one of the best light-coloured Roses yet introduced, lacking only perfume to make it perfect. I should be glad to hear what others think, as it would be a pity to confound Roses together that are really distinct.—R. W. BEACHEY.

WEST OF SCOTLAND ROSARIAN SOCIETY'S SHOW, HELENSBURGH.

THERE are few things that to my mind show the hold that the Rose has, I will not say on the general public, but on those who really love flowers, than the institution and successful carrying-out of such a show as this. In a country of which, as the worthy Chairman of the day said, an Englishman is reported to have declared "that it had no climate at all and the weather was beastly," and where at any rate the average rainfall is double that of the south of England, and where south-west gales are so prevalent that they threaten to blow the Roses off the bushes, not only do they manage a Rose Show but offer such prizes as to induce some of our leading growers to compete at them; and it was a real pleasure to meet Mr. George Paul and Mr. Cant in the streets of Helensburgh, and to see them busy staging their Roses in the skating rink; for taught by past experience the promoters of the Show, instead of holding it in a tent as last year, had migrated to the rink, which proved a very excellent place for it. The room was commodious, and owing to one side being thrown open more light was admitted than in ordinary cases where shows are held in a room, while it also afforded room for a promenade. The Show was truly international as far as the British Isles were concerned, for not only were there English but Irish growers competing with the natives. These latter were under a great disadvantage. The season has been late everywhere, but later in Scotland than in England, and hence this date (July 13th) which had been fixed upon as one most likely to suit Scotch growers was fully a fortnight too soon. I drove round the Gareloch and walked about Helensburgh before the Show and saw no Roses, and my wonder was that so many were enabled to put in an appearance.

Messrs. Paul and Cant contributed two stands of forty-eight blooms in their usual style and far outdistanced their competitors, although the Messrs. Dobson's stand was a very creditable one. Unfortunately Mr. Cant's, owing to an irregularity, was disqualified. Both contained some very grand flowers. François Treyve, Duke of Edinburgh, Etienne Levet, Paul Neron, Marie Cointet, Thérèse Levet, Mons. E. Y. Teas, Annie Wood, John Hopper, François Michelon, and other well-known sorts being in good form, especially for the season, which is not a favourable one for the Rose. In the class for twelve new Roses the same competitors appeared; and good blooms were shown by Mr. George Paul of some of the new varieties emanating from Cheshunt—Dr. Hooker, Duke of Connaught, Mrs. Laxton, Marchioness of Exeter, and others, while Mr. Cant showed a stand of English and foreign raised varieties of great excellence. In the class for twelve blooms of any one Rose the first and second prizes went to Marie Baumann, and the third to La France. In the amateurs' classes the first prizes were taken in every instance by an Irish grower, Mr. Hawkins of Belfast, with flowers of considerable merit, and the home growers made a very fair display under all the difficulties they had to contend with. A step in advance has been made since last year by offering prizes for blooms without any adventitious foliage; and we can only hope that the strong expressions made on this subject will produce fruit, and that this flourishing Society may set the good example of discountenancing all additions to the flowers.

The warm-hearted hospitality and kindness which one met with was something remarkable, and made my sojourn of a few days a most happy one; and I am sure all of us Sassenachs retain a most lively and pleasant recollection of the West of Scotland Rosarian Society's Show, which the energy of Mr. Galloway, so well known in the south for his triumphs as a *Gladiolus* grower, have tended to make so successful.—D., Deal.

RICHARDIA ÆTHIOPICA.

Two years ago I turned one plant of it out of its pot into a pond where it was about 18 inches deep. It was cut down by the frost, and there was for some time a thick coat of ice over it. But it flowered so well in summer that I put out some more plants last autumn. They were all cut down below the surface of the water, but are now in strong foliage with five or six flowers or large buds on them, and make a very handsome ornament on the edge of my pond. The foliage is not so large as on plants when well grown in a greenhouse, but very healthy. I purpose turning out a good many more this year. As I am living in the county Donegal (in the extreme north of

Ireland), growing it in that manner here is putting it to a very severe test.—JOHN R. BORD.

HIGHGATE FLOWER SHOW.

THE annual Exhibition of the Highgate Horticultural Society took place on the 12th inst. in the beautiful grounds of Edward Brooke, Esq., J.P., Caen Wood Towers. A more charming place for a flower show would be hard to find, for fine views are commanded from every part of the grounds, with London as it were lying at your feet. The Exhibition was held in two large tents, the larger one for specimen plants and gardeners' produce, the other for amateurs' and cottagers' produce. On entering, the first group to attract attention was a collection of foliage plants and Palms, edged 3 feet wide with dwarf Roses in pots in bloom from W. Outhush & Sons of Highgate and Barnet. At the other end Mr. B. S. Williams of Upper Holloway exhibited an unique group of six very fine specimens of *Allamanda grandiflora*, *Statice profusa*, *Dipladenia Brearleyana*, *Erica obtata*, *Ixora javanica floribunda*, and *Bougainvillea glabra*, edged with graceful Palms, Ferns, and new and rare plants, such as *Cocos Weddelliana*, *Adiantum gracillimum*, various new *Crotons*, *Dracenas*, &c.

The best competition was for the special prize given by S. Cumming, Esq., for twenty plants, distinct. Mr. Sheen, gardener to E. Brooks, Esq., Caen Wood Towers, was placed first, having good plants of *Dicksonia antarctica*, *Croton variegatum*, *Adiantum farleyense*, *Alocasia macrorrhiza variegata*, *Stephanotis floribunda*, &c. Mr. Fuller, gardener to E. J. Nettlefold, Esq., The Grove, Highgate, was placed second with much fresher plants, but not so large; he had a good *Stephanotis grandiflora*, *Clerodendron Balfouri*, a bright *Croton majesticum*, *Alocasia metallica*, *Crotons Weismanni* and *variegatum*, *Sanchezia nobilis*, &c. Third, Mr. F. Newman, gardener to W. H. Michael, Esq., Cholmeley Park, with *Thrinax elegans*, *Yucca aloifolia*, *Adiantum farleyense* and *cuneatum*, *Davallia Mooreana*, &c. For six Palms Mr. E. Ayling, gardener to S. Cumming, &c., Harbeston, was first with *Cocos Weddelliana*, *C. nucifera*, *Demonorops palembanica*, *Lantana borbonica*, and *Areca lutescens*. Mr. Fuller was second, having a good *Chamerops humilis*, *Areca lutescens*, *Seaforthia elegans*, &c. Mr. S. Clarke, gardener to Sir S. H. Waterlow, Bart., Fairseat House, was third. For six Ferns Mr. Sheen was first with excellent plants of *Cyathea medullaris*, *Alsophila excelsa*, *Dicksonia antarctica*, &c. Mr. Clark was second and Mr. Ayling third, also with clean and well-grown plants. Four Ferns, first Mr. Sparks, gardener to J. W. Jeakes, Esq.; second Mr. Shepherd. Six *Caladiums*, first Mr. Bullen; second Mr. Branderick, gardener to R. Prance, Esq., Hampstead. Four stove and greenhouse plants, first Mr. Branderick, second Mr. Sparkes. Six foliage plants, Mr. Ayling first and Mr. Branderick second. Six table plants, first Mr. Sheen, second Mr. Ayling. Three table plants, first Mr. Fuller, second Mr. Sheen, third Mr. Ayling. For six Cockscombs Mr. Kent, gardener to J. Lane, Esq., was a long way ahead with six grand plants; second Mr. Clark, third Mr. Taylor. Six *Achimenes*, Mr. Fuller was first. Six *Gloxinias*, Mr. Newman was first. Six zonal *Geraniums*, Mr. Catley, gardener to Mrs. Lermitt, Finchley, showed very fine plants. Six variegated *Geraniums*, first Mr. Taylor. Six *Pelargoniums*, first Mr. Pope. Twelve British Ferns, first Mr. Shepherd. Twelve bunches of cut flowers, first Mr. Fuller, second Mr. Ayling, third Mr. Rowson. Twelve cut blooms of Roses, first Mr. Taylor, second Mr. Shepherd. Twenty-four blooms, Mr. Eason was first, Mr. Silvester second.

FRUIT.—Mr. Akehurst, gardener to S. Copestake, Esq., showed three bunches of Black Hamburgh Grapes not for competition, by far the finest in the Show. For Black Grapes Mr. Clark was first, and for White Grapes Mr. Branderick had premier honours. For six Peaches Mr. Clark was first, Mr. Fuller second, and Mr. Sparkes third. Six Nectarines, Mr. Fuller first, and Mr. Birse second. Three dishes of Strawberries, Mr. Sheen first. Collection of Fruit, Mr. Birse was first; he had also the same position for a collection of Fruit and Vegetables. Second Mr. Clarke, third Mr. Sparkes.

The Baroness Burdett Coutts gave several special prizes for kindness to birds, &c., likewise the cottagers and amateurs showed well; but it would take up too much space to mention all prizetakers. The Show was a very successful one and reflected credit on Mr. Buick the Secretary; and was visited by several thousand people during the afternoon and evening.

MAIDENHAIR FERN.

It may interest the Editors of our Journal and "WILD SAVAGE" (vide vol. xxxii., page 64) to know that on Saturday last (July 7th) I found *Adiantum Capillus-Veneris* growing in Portland, and as "seeing is believing," I send a small piece in a tin box for your inspection.

I have not yet discovered *Asplenium marinum*, but a nur-

serymen who used to live in Weymouth showed me plants from the same locality. I gladly record this, as the Fern books give Dorsetshire credit for only the commonest kinds.—CHAS. T. HALL, Osmington, Weymouth.

[The specimen sent though small is true.—Eds.]

LUDLOW ROSE SHOW.

THERE was held on the 12th inst. in the Assembly Room, Ludlow, a little town picturesquely situated on an eminence (Did not our Rose boxes find this out?), about midway between Shrewsbury and Hereford, a most enjoyable and in every respect, floriculturally and financially, a successful Rose Show *pur et simple*, well worthy of being chronicled in more than a passing notice in the annals of our Rose Journal; if only *pour encourager les autres*, and to induce other provincial towns to realise what an inexhaustible fund of pleasure may be their own by calling into life an annual Rose show. For if the proud Salopians (and fairly are they so entitled), have achieved for themselves so signal a success without any exceptional circumstances in the way of celebrated local nurserymen or amateurs, why may not scores of other provincial towns be moved by the contagion of this good example to go and do likewise? Indeed, without assuming the garment of prophecy, every observer of the past history of the Rose must allow that its whole success depends on these provincial gatherings. They are the little pebbles thrown in here and there, producing a diversity of fresh circles, but all eventually merging in one grand central brotherly embrace—the very life blood of her roseate majesty, of which the National Rose Society is both the offspring and the parent. The mountain—Mahomet was said to complain—would not come to him, so he had to go to the mountain; and just so many an unfledged exhibitor who would not dare to scale the uphill task of reaching the National, would by means of his own provincial show gradually gain in confidence, skill, and experience, aye even to carry back home the chief laurels of Queen Flora's highest court.

But to return to the Ludlow Provincial Show, happily not in the clouds but an accomplished fact. A first glance of the schedule would suffice to show that it was framed on the lines of the West of England Rose Show. Very proud indeed is that Society of its offspring, and very strong did the Herefordshire contingent muster on that auspicious occasion. Messrs. Cranston & Co. were competing at four different shows, and either were not cutting their usual strength or underrated their rivals, for they had to be content with second honours, though there were some grand blooms in their exhibits, notably Hybrid Perpetual Thomas Mills, an indescribably grand bloom of François Michelin, perfection of size and smoothness; also Maurice Bernardin, shown so different that our friend of Warminster must hesitate about classing him with his other four pseudo-suggested synonyms. Mr. W. Lee of Lyonshall Nurseries, Kingston (who formerly belonged to the King's Acre staff) was *facile princeps* in all three open classes; indeed, it is to be doubted whether grander, smoother, and deeper-coloured blooms have been shown this year. Specially noticeable were Sénateur Vaisse, in great substance of petal and colour; Camille Bernardin, nearly equal to Mr. Jowitt's at Hereford; Charles Rouillard, a superb specimen of this shy but exquisite model of a Rose; Marquise de Mortemart, grand; Horace Vernet, Duke of Wellington, and Lord Macaulay, each of intensely glowing colour and great substance; Mons. Furtado and Lælia, splendid specimens; and last, but not least, Elie Morel, of a colour approaching carmine, a marvellous bloom, and very puzzling to the Judges. Mr. Lee assured them that it was an undoubted specimen of this light pink variety, but attributes his depth of colour running through nearly all his three boxes to a liberal top-dressing of soot to his Manetti maidens (budded Manetti of the first year?) in the spring just before they began to break. Doubtless this may partly be the reason, but Mr. Lee's strong-holding red deep clay on gravel or marl plays an important part as regards enriching the colour of his blooms. Mr. Griffiths of Tillington Nursery (where Andrew Knight grew most of his pomological novelties) took a good second prize, his stand containing grand blooms of Madame Hippolyte Jamin; Reynolds Hole, a superb bloom; and Thomas Mills, a Rose which deserves wider cultivation.

AMATEURS.—Mr. Jowitt, as may be supposed, carried off two of the first open prizes in thirty-six varieties. Very good indeed were Marie Rady, Mons. Bonstetten, Hippolyte Jamin, especially grand and symmetrical. The Rev. C. H. Bulmer was second. In his stand were grand blooms of Beauty of Waltham; J. Stuart Mill, one of our greatest recent acquisitions in crimson Roses; and Mons. Woolfield. Mr. J. H. Arkwright was first in twenty-four varieties. This gentleman also exhibited—besides his irrepressible Maréchal Niels, which command first prizes wherever exhibited, and which for the benefit of exhibitors at late and early shows I may mention are grown on trellises in a recess facing south between two gables—a box of twenty-two

varieties of old Roses, which would have gladdened the heart of the Marquis of Bute, who once gave a prize at Hereford for such old varieties. The stand was exquisitely grouped, and contained varieties, now seldom seen, of the old Austrian Briar in three shades, the white and pink Provence, the old red indica, the yellow, orange, and pink Persian, the old Maiden's Blush, several varieties of the old Moss, China, &c. The class locally restricted was neither as well filled or exhibited as doubtless will be on future occasions, as the prize list is liberal. Next year a larger prize to nurserymen in the open class would attract the Rose chiefs of a distance and be of mutual advantage, as the county of Salop is admirably adapted for Rose culture, and as yet little has been enterprised.

The only remark to be made in concluding this sketch is to congratulate the Committee and Mr. Salwey, the courteous Hon. Sec., in particular, on the success of their very excellent Exhibition, and to suggest that on a future occasion it be held in the grounds of Ludlow Castle, a locality that would lend wonderful enchantment to the scene from its natural picturesqueness, from its association as formerly a Royal residence, and from its being the favoured spot where Milton wrote his "Comus."—THE HEREFORDSHIRE INCUMBENT.

THE BURGHLEY YELLOW ROSE.

I SHALL only feel too happy to tell your correspondent "SOUTH LINCOLN" the best way I know to flower the Burghley Rose. If your correspondent grows fruit trees on the wall of his garden, I would advise him to procure good layers of this Rose and plant them between the trees, but not to forget the larder. When established this Rose grows something like *Maréchal Niel*, from 10 to 15 feet in a summer. Grow-up a single stem between the trees, and when it reaches to the top of the wall train it along it, and when the dark days of winter set in take the Rose away from the wall and tie it to the Pear or Plum spurs. This will effectually preserve it from the frost. When the fruit trees are in flower the Roses will be showing, and the fruit blossoms keep it warm and comfortable. In due time you will see the yellow buds of the Rose peering through the green leaves, which add the necessary shade and all comes perfect. Many people wonder at the green eyes which the *Maréchal* shows when exposed to a powerful sun all day and a frost at night, but if they think a wee the reason is simple enough. I may add that no letters of thanks are needed, I have so many from "the Royal" that they have become common.—R. GILBERT.

[We have inquiries whether the Burghley Yellow will grow and flower if budded on the Briar. Will Mr. Gilbert oblige by informing us if he has adopted that mode of culture?—EDS.]

CLIFTON ROSE SHOW.

A VERY pretty little Rose Show was held at Clifton on the 12th inst., which was successful in every way. It was held in the gardens of the Zoological Society, and a prettier place for such a show cannot be imagined. The prizes, particularly for amateurs, were very poor, but that did not prevent a large and goodly muster of rosarians.

Among the nurserymen were Mr. Keynes of Salisbury, Mr. Cranston of Hereford, Mr. Corp of Oxford, Mr. Durbin of Bath, Mr. Bennett of Stapleford, and Mr. Curtis of Torquay, so that the nurserymen's classes were well filled, and if no other exhibitors had been there, still a good exhibition of Roses would have been the result. But when to these are added the names of such amateurs as Mr. Baker of Heavitree, Mr. Jowitt of Exeter, Mr. Davis of Wilton, Mr. Chard of Clarendon Park, and a host of others, you may imagine that there was no lack of Roses. The nurserymen filled one tent and the amateurs another, and it was very interesting to compare the effects of the stands in the one with the other, and to see in what one section failed and the others succeeded.

There was no class for seventy-two distinct varieties, the highest class for nurserymen being the one for forty-eight trebles, and for this three exhibitors staged. Mr. Keynes won the first prize very easily, but his blooms were not, in my opinion, quite up to his old standard; but then we are getting late on in the season. Mr. Cranston was second and Mr. Curtis third. Mr. Keynes showed a treble of *La Rosière*, a new Rose, which I admired at the Crystal Palace, but here it was only a poor *Camille de Rohan* or *Souvenir de Dr. Jamin*. He had several good trebles of *Teas*, and most of his blooms were clean and even, but a little undersized. He showed also a good treble of that difficult Rose to open *Black Prince*. For twenty-four trebles confined to Bristol nurserymen four candidates put in an appearance, and a more miserable lot than the generality of the blooms I never judged. Mr. Durbin's were a long way the best, but he spoilt his box by putting a treble in the back row of

such a wretched Rose as *Abbé Bramerel*, and one or two more flat and coarse blooms also were sad eyesores; but the other Bristol nurserymen would have been wiser to have kept their blooms at home than to have made such an exhibition as they did. I do not at all approve of these close classes, and wish secretaries and committees would set their faces against them. Often and often have I seen money positively thrown away, the exhibits being quite unworthy of a prize, but the committee feeling compelled to award them prizes.

For the class for twenty-four distinct Roses (nurserymen) there was great competition, for eight good stands were staged, and we had no light task to decide on the second and third prizes. Mr. Corp of Oxford won the first prize with a splendid box. To my thinking this stand was by far the best in the Show. He had marvellous colour, good form, freshness, and indeed all good qualities which a Rose can possess. His most remarkable blooms were the novelties *Margaret Brassac* and *Mons. E. Y. Teas*. His *Charles Lefebvre* also was the best I have seen this year. Here we saw the Rose as described by "D. Deal," as he saw it at Okeford Fitzpaine; each petal shaded with velvet, and the form pure centifolia. He had also a grand bloom of *Marie Baumann*; indeed, his stand was very like what we have been accustomed to see Mr. Baker show. *Hercules* was once more first for twenty-four and twelve trebles, and very fine they were, but perhaps a little overpast. The *Teas* were exceedingly good, and altogether it was a very successful Show.—WYLD SAVAGE.

ROSES IN HAMPSHIRE.

I HAVE noticed just now very general complaints of the present year (1877) being a late and bad year for the queen of flowers. This I am forced to concede must be generally the case. I went to the Crystal Palace Show, hoping to be very much pleased; I came away disappointed. I venture to record my experience. I am an amateur, living in Hampshire within a mile of the Solent, on a soil light and gravelly 1 foot or 18 inches deep; subsoil a hungry, open, clean gravel or shingle, one that you would almost think it hopeless to grow *Roses* in. I have nevertheless attempted it, and succeeded sufficiently well to induce me to continue the enterprise. I have about 250 *Roses* in my garden, principally on the Briar and *Manetti* stocks, but some few on their own roots. I have none on the Maiden Briar.

With the soil as described above, as may be expected, the *Manetti* answers best, care of course having to be taken to eradicate shoots from the stock, which it is very apt to make, and which if allowed to remain growing will in a short time very much weaken if not destroy the scion. The Briar loving a stiff loamy soil has not succeeded so well. The same may be said of self-rooted *Roses*, which like a rich loam.

This season has been with me excellent. I never had such a number of good blooms; without any special cultivation I could have brought a case which I should not have been ashamed of exhibiting against the smaller amateurs at the Crystal Palace. I send a few extracts from my garden memoranda for this year (1877):—May 16th, *Yellow Banksian* in bloom; 19th, *Pink China* in bloom; 25th, cut *Devoniensis* and *John Hopper*; 28th, cut *Gloire de Dijon*, *John Hopper*, *Devoniensis*, and *Lord Clyde*; June 3rd, cut *Charles Lefebvre*; June 9th, splendid show of *Climbing Devoniensis*, *Gloire de Dijon*, *John Hopper*, *Charles Lefebvre*, *Lord Clyde*, and *Duke of Wellington*—several exhibition blooms; June 15th, 105 blooms of above in front of house, besides a profusion of buds, blooms to a large extent having been previously cut.

Since the above date I have had a magnificent show of *Roses* all blooming together, so much so that I have remarked to many of my friends that I have been much better pleased with the show of *Roses* in my own garden than with that at the Crystal Palace. I do not profess to obtain every new Rose as it comes out. I am satisfied with such as *Charles Lefebvre*, *Climbing Devoniensis*, *John Hopper*, *Madame Lacharme*, *Jules Margottin*, *Prince Camille de Rohan*, *Baroness Rothschild*, *La France*, and *Roses* of that character. I have had perfect pictures of dwarf bushes on the *Manetti* of "the Baroness," *Fisher Holmes*, *Duke of Edinburgh*, *Général Jacqueminot*, and *Madame Lacharme*, a dozen perfect flowers expanding at once in some instances. I take it that the true aim of a cultivator of flowers should be to select those which are good and to grow them well, so as to please the eye, not to run about collecting plants the same or nearly so as those that have come before, distinctions without a difference, multiplying names with scarcely any variation of flower. The culture I have adopted is this: I manure highly with stable manure a year or two previous to planting, cut back hard annually in March

and with such a winter and spring as we have had refrain from watering entirely. Mine have not had a drop except what nature has given. About every two years I cover the Rose quarter 2 or 3 inches thick with stable manure in October or November, and shift all the plants by trenching the ground and digging in the manure and replanting in March at the time they are pruned back. Watering I have observed gives a tendency to mildew, with which they have been affected in previous years. I have seen none in this, and scarcely any aphid or other blight. The Roses may be characterised as perfectly clean, in fact pictures as to foliage.—CONSTANT SUBSCRIBER, *South Hants*.

[Do not hesitate to communicate your experiences in Pear and Apple-growing, especially as, unlike many cultivators, you "have a good crop of each."—EDS.]

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

KITCHEN GARDEN.

We have given over trying to produce Cauliflowers as an autumn crop, but those who find it necessary to make sure of good examples at that time should now put out their plants. To make sure of good results the plants ought not to become stunted in their growth by overdryness at the roots, which is certain to produce mildew, and caterpillars ought to be destroyed if they are observed on the plants. Hand picking is the most certain way. A friend recommended ducks to us as a sure way of clearing crops of caterpillars; but we found on turning them into the garden that they cleared-off Peas, Cabbages, Lettuce, and caterpillars indiscriminately. Hens, too, we were told would soon clear the Rose bushes of aphid, but our hens prefer to scratch the plants out by the roots in their search for underground insects. It is best not to allow any sort of poultry in the garden. The autumn-sown Onions are nearly ripe; a few specimens have thick necks and stand upright. A good plan is to bend the tops down so as to cause the bulbs to swell and ripen more rapidly. Spring-sown crops have been gone over and all the weeds removed.

Brussels Sprouts and Savoys have been planted-out on good ground, the Sprouts 2 feet apart, and the Savoys 2 feet between the rows and a foot between the plants. Cardoons should now be thinned-out, leaving the plants at the distance of 9 inches apart in the rows. The ground should be stirred-up a little amongst the plants, and all weeds be removed. As the plants increase in growth they must be earthed-up a little at a time when the ground is dry. We have planted some Kidney Beans for a late crop. This sowing when the weather is favourable in September and October is very useful to us. The plants will continue bearing into October, but it is quite necessary to gather the pods as soon as they are fit for use. Turnips ought also to be sown for use in autumn and winter. The plan pursued by the growers for market in this district is a very simple one, and consists in merely scratching the ground after it has been cleared of the early Potatoes, and sowing the seeds broadcast, and then harrowing the ground to bury them. When large enough the plants are thinned-out to from 6 to 9 inches apart, and to prevent the attacks of the Turnip fly it is often necessary to scatter a quantity of spent hops from the brewery over the crop. As the ground is usually very dry at this time it is a good plan to give it a thorough watering before sowing the seeds. It is best to sow Lettuce seeds, Radish, and any small salad under a north wall. In whatever position they may be sown, watering in very dry weather is absolutely necessary. See that the Celery crops are carefully attended to that have been planted-out early. Want of water will cause many of the plants to bolt. More trenches must be planted for succession.

VINERIES.

We have been able to clear the Vines of the early crops of Grapes, and were glad to give the leaves a thorough cleansing with a garden engine, applying the water with considerable force, but taking care not to injure the leaves. The ground is also well watered if necessary; not the outside border, but the inside generally becomes too dry before the crops are gathered. In the late houses it is easy to perceive which berries are likely to be small and stoneless, and it is a good plan to remove them at once. Shanked berries are also better removed as soon as they are perceived. A very little attention to the small details of Vine culture makes all the difference between a houseful of bunches with even-sized berries and branches regularly arranged, and a house where the bunches are uneven and the branches disorderly. We have recently gone over the late houses and pinched back the lateral growths, taking care that each bunch is securely fastened to the wires by means of a stout strip of matting. It would be well to again remark on the importance of judicious ventilation, and in arid weather see that the atmo-

sphere is kept sufficiently moist by sprinkling water on the paths, borders, and walls of the house.

CUCUMBERS AND MELONS.

During the next six months no artificial heat is required for these, whether they are cultivated in pits and the Vines trained over the surface of the ground, or grown in span or half-span houses. Those who have the means to do so (and we question whether it would not pay better even for those who wish to grow for market) should grow their plants in a house where they can walk underneath them, as so much more enjoyment is derived from their culture in this way; and those who have to attend to the plants find it so convenient to water, syringe, train, and regulate the growths; and one great advantage gained by training to a trellis overhead is that the under sides of the leaves can be washed with the syringe, and that is where spider attacks them. Excellent Cucumbers and Melons can be produced in ordinary garden frames, nor is it necessary to trouble about the linings of fermenting material. The best frame Cucumbers we have ever seen grown received no more attention as regards watering than to have two pots of water placed inside the frame, and after having been exposed to the heat of the frame through the day, each light received about three gallons, applied through the rose of a water-pot. This was done every day through the summer months, and the shoots were thinned-out as required, and the young growths pegged down once a week. In houses the usual routine of work is syringing and damping three or four times a-day and closing early in the afternoon. When the Melons approach the ripening stage syringing must be discontinued, but we do not allow the soil in which the plants are growing to become dusty dry.

PLANT STOVE.

In treating of our own "doings" reference must always be made to the more choice species of hardwooded plants, the most select of "foliage" plants, and Orchids. Many who have small stoves cannot grow such, and others may prefer Gloxinias, Achimenes, Gesneras, &c. The earliest of the two first-named will now be approaching their resting period, and must have more air admitted to them and be kept rather drier at the roots. A small house, or even a garden frame, would be as suitable a place as any in which to place the plants, where they could receive the right treatment. Other plants for succession must be grown in a warmer, closer, moister atmosphere, but we do not approve of syringing the leaves.

Celosias.—The pyramid-branched variety is the most useful for decorative purposes, and the cut sprays are very suitable for placing in vases. The culture of these plants is very simple. They are annually raised from seeds. The plants must be grown-on rapidly by potting in rich loam and a little leaf soil. They must be kept in heat and daily syringed to prevent the attacks of red spider. Under good management the plants may be grown 3 or 4 feet high and as much across in one season. Then we have the ordinary Cockscomb (*Celosia cristata*), plants of which are highly useful for decorative purposes. These are usually grown in garden frames over a bed of fermenting manure. When the plants are shifted into the pots in which it is intended they are to perfect their flowers bottom heat is not necessary, and the frames should be well ventilated, the object being to prevent the stems from becoming drawn up. Red spider is also very fond of feasting on the under-sides of the leaves, and wherever this pest goes a blight follows it, and the leaves speedily become yellow. The plants when well grown have a bold appearance when arranged with other plants on the greenhouse stage.

All young plants of such subjects as Bouvardia, Thysacanthus, Euphorbia, Eranthemum, Begonia, &c., which were raised from cuttings early in the season must now be grown-on without any check. They must be potted before the roots are too much matted to the sides of the pots, and it depends much upon the size it is intended to grow the plants as to the size of the pots that ought to be used, as some of the above grow very rapidly. Bouvardias are well known to be so useful at the dreariest season of the year, their delicate snow-white blush and red flowers lighting up the gloom of dreary November and December, that few persons would be without them. Our plants have just been turned out of doors in the company of *Poinsettia pulcherrima*. The young shoots push out vigorously, and must be regularly stopped until the plants are sufficiently large and of a compact habit. The plants must be regularly syringed to prevent them from becoming infested with the inevitable spider. The other plants named should be grown near the glass, and be shaded from fierce sun.

Climbing plants are apt to straggle far from the bounds allotted to them at this season, and they must be restrained by a free use of the knife. At the same time see that the leaves are washed free from dirt, bag, and scale.—J. DOUGLAS.

TRADE CATALOGUE RECEIVED.

W. Dobbie, 62, Preston Street, Faversham.—List of Variegated and Bedding Geraniums.

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

BOOKS (*Grains*).—"The Cottage Gardener's Dictionary" explains the terms employed.

APPLYING APHIS MIXTURE TO ROSES (*B.*).—Apply the aphis mixture with a brush, when out of bloom syringe with soft soap. Your trees must be much out of health, or the aphides would not be very numerous. In the fall of the year lift the plants and root-prune them. Give them some new soil if possible; if not, trench deep or move the soil altogether. Spread the exhausted soil on the lawn or on the pasture land.—WYLD SAVAGE.

ROSE BUDS (*Tyro*).—They are advertised in our columns by Mr. Cannell, Swanley, Kent. A budding knife is indispensable, as a common knife must tear the bark and injure the wood.

GRUBS ON ASPARAGUS (*X.*, *An Amateur Gardener*).—If the specimen sent is a fair sample of the condition of your Asparagus the beds will be greatly injured, if not ruined, unless you promptly destroy the enemy, which is the grub of *Crioceris asparagi*. We should syringe the Asparagus and then dust it with lime. We should at the same time sprinkle salt on the surface of the beds, making it quite white. We should further like you to try the experiment of syringing with paraffin in different degrees of solution, and to inform us of the result. We think you will thus be able to kill the grubs without injuring the Asparagus.

GARDEN PLAN (*Prima*).—Curves are more graceful than straight lines. We do not think the walks too numerous.

FERNS (*A Constant Reader*).—The specimens were not numbered.

FRAGRANT ROSE (*H. C.*).—We consider Duke of Edinburgh the best bright scarlet and fragrant Hardy Perpetual Rose.

HIGHEST STRAWBERRY (*H. U.*).—We knew an Oscar Strawberry weigh 5½ ozs., but it was a monstrosity.

PEAR TREE BLIGHTED (*Mr. Welch*).—The border probably requires to be drained and manured. The Currant bushes should be dusted with flowers of sulphur, which will not injure the fruit if the sulphur is syringed off a few days after it has been applied.

VARIOUS (*L. H. Bromley*).—The Vine border requires manuring. The insects are red spiders.

PEACH TREES BLIGHTED (*J. F. N.*).—We presume the trees have been attacked by the Peach aphis, and as the leaves have fallen off it is a serious case—indeed we never knew of such a case. Probably the Gishurst compound was too strong and caused the leaves to drop off. Whatever was the cause, a large proportion of the wood will die. This you must cut out, and it may even be necessary to cut the trees quite back and force them to start from near the base. You must destroy the aphis (as is so often recommended in the "Doings of the Week") in its early stages.

GROWING STRAWBERRIES FOR MARKET (*J. H. P.*).—We advise you to have the ground trenched 2 feet deep, working in at the same time a good supply of rich manure. If you fancy the deep trenching is too expensive the ground ought at least to be double-dug—that is, dig out a spit and then go over the same ground and throw out another, working in some good manure at the same time. Plant as early as you can, and if the plants are strong and can be put out at once you will have some fruit next year. Plant in rows 2 feet apart and 18 inches between the plants. The best sorts to grow are Keens' Seedling, President, Sir Charles Napier, and British Queen. You may add a limited quantity of Duc de Magenta, James Veitch, and Frogmore Late Pine.

GLOXINIAS AFTER FLOWERING (*H. Bullock*).—The plants should be kept in an airy house, but not be too cool. At present they may be placed on shelves near the glass in a pit or greenhouse. When the leaves become yellow water must be withheld entirely. Place the pots on their sides in a cool stove under the stage until it is time to start them in the early spring.

MANAGEMENT OF PELARGONIUMS (*Idem*).—We presume that you do not mean the zonals, but the varieties usually termed show Pelargoniums. They ought to be cut down now, but you must allow the soil to become very dry first, and do not give any water for a day or two after cutting down; this is to prevent bleeding. When the plants have grown an inch they must be repotted. At all times the plants should be near the glass and be freely exposed to light and air.

ARRANGING INTERIOR OF HOUSE FOR STOVE PLANTS (*J. D.*).—The shelf all round the house is too narrow for the growth and display of specimens; the width should be 3 feet, which could be gained by making the pathway 3 feet instead of 4 feet wide. The shelves should be of flags or slate, having a slate edging about 3 inches deep. The side shelves should be about 6 inches lower than the wall plate of the side lights—about 2 feet 6 inches from the floor. Upon the shelves 1½ to 2 inches' thickness of gravel may be placed, rejecting the small particles passing a quarter-inch sieve, and only using gravel which has passed through a three-quarter-inch sieve; upon the gravel the pots can be placed. The appearance is good, and water passes freely from the pots, and a supply of moisture by evaporation is also ensured. If climbers are required for the roof, planted out in borders, apertures must be left in the shelves. Ours have an opening for each rafter, the shelving being supported by stone pillars, and the border for the climbers having a stone curbing, the border being the width of the side shelves—viz., 3 feet. The piping for top heat may be beneath the side shelves. We should have six rows of 4-inch pipes all around the house—three flows and the same number of returns, and the whole of the flow pipes troughed for holding water for evaporation. The centre of the house we should dispose of as a bed 2 feet 6 inches high, with side walls 14 inches thick to a height of 15 inches, with longitudinal walls inside for the support of the tank or chamber cover-

ing; 4½-inch walls built in cement will answer, two walls being required or more according to the width of the covers, the walls not being taken to the ends within 2 feet where the pipes enter for heating the bed. You will have to decide whether you will have a tank or a hot-air chamber. In the latter case two pipes are taken along each compartment of the bed, it being presumed that you have two walls and three compartments in the bed, the pipes being fixed about 4 inches beneath the covers, so that six rows of pipes will be required for bottom heat. If this method be followed the side walls of the pit need not be more than 9 inches thick. All that is needed is to put on the covers, resting them on the side and internal supporting walls, and then take the side walls up to a height of 2 feet 6 inches; 4½-inch thickness is as good as thicker if cement is used for the joints. When the covers are put on a hot-air chamber, the covers being 3 inches thick, less if slate be used, we have 1 foot left for plunging material, the best that can be used being cocoa refuse. In case of a tank being desired, and it certainly is preferable, the outside walls must be 14 inches, and the floor of the bed must be laid with bricks upon a hard bottom, run with cement after laying it, and the side walls being plastered with cement to the height of the cover's base. Six rows of pipes are laid, and water is admitted by a tap from them until they are covered with water not more than an inch deep. Provision must be made in the side wall, so as to get at the tap by a man hole so as to keep the tank replenished with water as required. The covers are then put on, the joints fitting closely; no pointing is needed—indeed, they must be left open, and we have a tank with 1-foot space above it for plunging material. By inserting 4-inch pipes, three rows at a yard apart, through the covers into the tank, letting them rise just above the plunging material, each being supplied with a hard wood plug, the atmosphere is furnished with moisture as may be desirable. An open tank or chamber with a stage over is of no value as bottom heat, and such heat is absolutely essential for the superior cultivation of some stove plants.

MANURING WATERCRESS (*Eastleach*).—Of the "blight" we can say nothing in the absence of a specimen and particulars; but as to manuring, the best that can be applied is well-decomposed cow dung, the first dressing being given in a week from planting, about half a bushel to the rod (30½ square yards), it being disposed over the plants and pressed down with a rather heavy board having a handle fixed in it obliquely, and after each cutting the plants are manured with well-decayed cow dung, spreading it over the naked plants and pressing well down with the rammer above alluded to. September to November is a good time to make fresh beds to come in in spring, and May and June for cutting in August. The shoots should always be cut and not picked, as picking is found to be injurious to the plants.

GERANIUM LEAVES SPOTTED (*Novice*).—The spotting probably arises from defective ventilation.

SILVER SAND (*Ten-years Subscriber*).—It is very good, and well suited for potting purposes.

ROSE BUDS DEFORMED (*Atkinson*).—The injury may be caused by too sudden transitions of temperature, such as being exposed to bright sunshine and at night to cold winds.

TROPEOLUX SPECIOSUM.—Mr. James Weston, Tanfield Lodge, Croydon, wishes to obtain a plant.

PRESERVING GREEN PEAS (*A. Z.*).—Pick them when full grown, shell them, dry them gently but thoroughly, and then store them in canvas bag in a dry place. When required for use soak them in water for a few hours until plumped-up, and then boil them. The following mode has been reported to us by a person well qualified to judge of such matters as being very successful:—Carefully shell the peas, then put them in tin canisters, not too large; put in a small piece of alum, about the size of a horsebean, to a pint of peas. When the canister is full of peas fill up the interstices with water, and solder on the lid perfectly air-tight, and boil the canister for about twenty minutes; then remove them to a cool place, and they will be found in January but little inferior to fresh newly gathered peas.

FUNGI (*C. Princep*).—Both are dangerous.

GREEN FLY IN CUCUMBER FRAME (*W. R.*).—Syringe with tobacco water, and then with plain water.

NAMES OF PLANTS (*A. H.*).—*Jasminum Sambac flore-pleno*. (*Mrs. L.*).—*Astrantia major*. (*J. P.*).—All appear to be forms of *Biota* (*Thuja*) *orientalis*. (*Ponica*).—1, *Biota* (*Thuja*) *orientalis*; 2, *Lastrea spinulosa*; 3, Apparently the same. (*D. Gurney*).—*Araxia albens* (*Phytanhus albens*, *Bot. Mag.*, t. 5201), native of Brazil. (*G. O. S.*).—*Sphaeralcea acerifolia*, with lower leaves unusually divided.

POULTRY, BEE, AND PIGEON CHRONICLE.

VISIT TO MR. H. M. MAYNARD'S PIGEONS,

HOLMWOD, RYDE, ISLE OF WIGHT.

PART 2.

BEFORE passing through the door to visit the first series of Pigeon pens I am shown the food which the birds eat, and it is of the soundest kind. I may also observe that Mr. Maynard has recently bought the stock of Carriers lately belonging to Mr. Harding of Fareham, a well-known breeder and exhibitor. As usual now-a-days these birds did not become Mr. Maynard's without an outlay of several hundred pounds. The outer world frequently imagines that the best Pigeon is only a bird which will cost a few shillings, but a champion Pigeon now, if of a high-class variety, costs many dozen pounds; and no one can dream of becoming a successful exhibitor without a considerable capital and a shrewd business head, combined with thorough knowledge of Pigeon points. With such qualifications he may with experience become a successful exhibitor without pecuniary loss, though not even every successful fancier can become in his class what Mr. Maynard has become in his special class—Carriers, of which he is the prince of amateurs.

The garden, a flower garden, which I now enter wears an old-fashioned aspect—walled, spacious, square, with an infinite number of beds edged with box, and in one corner of its south

side is the conservatory connected with the house. A warm garden, one which the chilliest invalid could creep about in whenever a gleam of sunshine broke out on even a winter's day; a warm, sunny, cosy garden, made to catch and retain heat. Now along part of the south and west sides of this garden are arranged Pigeon pens, each with nesting place along the wall, and fairly roomy exercise and feeding place joining on, running still along the wall, not coming out into the garden. The Pigeon pens, of which there are many, may be likened in position to a series of greenhouses, each divided into two compartments—the nesting room dark, the flight room light with a wire front. Thus lengthwise, not endwise, they meet the garden and abut a path down which we walk to look into the pens; to the right hand the pens, to the left the garden. But the reader will say the rain must drift into the broad wirework of the somewhat wide-fronted pens, and the sharp winds will bring rousp and all manner of troubles to the delicate high-class birds. These contingencies are avoided by a clever contrivance: a verandah is thrown over the path, glazed halfway down from the top of the side fronting the garden, but entirely open on the lower part. Hence no rain can drift in, and yet there is abundance of air-coming, as fresh air should come, from the lower part. There are fifteen houses in all, including others out of the garden, and a stock of upwards of four hundred Pigeons. Somewhat central in the garden and by itself stands another pen; this contains Barbs, Carriers, and Jacobins, some of the second named having belonged to Mr. Harding of Fareham. The kind of nesting box which Mr. Maynard adopts and finds most useful is most simple and inexpensive—a little deal box 13 inches long by 11 wide; in front a hole for entrance, just the same as to a common wall locker—thus, *Q*. Then the whole of the back is a sliding door, through which you put in and take out for examination the nest pan, which just about fits the box. Thus the entrance of the bird itself is not interfered with—no putting the hand in in front of the bird, and a Pigeon always seems to be jealous of any hand entering its home, and pecks sharply at the fingers and gives blows with its wing, whereas enter from behind and the bird is not disturbed. These boxes are set about in different places, many on the floor, others on shelves; and they form nice, separate, detached, snug nurseries for the Pigeons, and the top being flat is a perching place for the cock, while the hen sits within on her eggs or young during night. I should recommend these boxes, particularly for shy and pugnacious Pigeons such as Carriers, as fewer eggs would be broken and fewer fights take place than with any other plan known to me.

Before going the round of the flower-garden pens I am invited to look at one placed somewhat in the middle of the garden. Here I found Carriers, chiefly Duns; among them an old Dun hen and a young Dun, with fine necks and good colour. There were two Jacobins, a class which Mr. Maynard is working up, especially White Jacobins.

Coming to the pens by the wall I find in one the champion Barb hen, and others nearly her equal; then fine Black Carriers, then among other choice birds Black Barb cock, first and cup at Birmingham, and a magnificent Dun cock, and so one went on repeating the sight of Carriers and Barbs, then some Fantails, then more Carriers and Barbs.

At the back of the flower garden I find some new houses recently built by Mr. Maynard, and upon the more general plan of a breeding and roosting part, and a flight loft in front 12 feet by 9. These contained White Jacobins (now being improved by fanciers), the bull-eyed and the small-frilled being weeded out, but too often the Turbit head or, more correctly speaking, the Foreign Owl head, is apparent in a certain flatness or dent which takes off from the beauty of the bird. In another of these new pens are Fantails, some Scotch of Mr. Huie's strain. All the prize birds are now Scotch and English combined. The large, heavy, flat-tailed English bird now is disappearing. Mr. Maynard's are both, so are Mr. Serjeantson's. This is another proof that the union of England and Scotland is a mutual benefit, for the Scotch birds gain in tail by the English cross.

In these pens Mr. Maynard has a few Blue Carriers. This variety seems to be most troublesome to manage, for the best Carriers are smoky in plumage, while the best coloured are Dragoon-like and old Horseman-like in shape. With these birds, and of course many Barbs, are a very few white Pouters, also some Red Jacobins, their colour being very rich, possibly from the shady nature of the pens, they being stoutly rooted over, with no light save at the sides. But yet two more lofts, and a climb I had to get to them—up perpendicular ladders. In the first, a large granary-like building, I find Carriers only; in splendid plumage, as they have an outlet to the wired-in roof—the plan well-known as Mr. Wallace's of Glasgow. These birds were very numerous and about two years of age, and in a good strain Carriers of that age are fully adult; unlike Barbs, who require four or five years. I saw no finer sight at Holmwood than the rows—row after row of these birds, which had been especially kept in for me to see. There they sat on the rafters crossing the building, looking the perfection of Carrier beauty—sleek, bright, clean, and above all things grown up, but not yet grown

old, at which period of life they degenerate greatly—beak opening, eye dull; in fact, in one word old, and in old age bird-beauty utterly goes. Last lot of all—a small one over a stable, where I find a wonderful old hen Carrier, a grand bird, but, "old Master Shallow, without doubt she is old." She may, this Dun hen, have a young one or two this year, but "tis the last time of asking," and "no more, no more—oh! never more."

After lunch another peep at the more choice Pigeons, then a stroll about the 30 acres of ground in Mr. Maynard's hands. I came in different parts of the grounds upon splendid lots of Silver-pencilled Hamburg fowls and chickens, among the latter the best I have this year seen, though I have seen a large number of Hamburgs of this variety. How neat, tidy, and clean the Silver-pencilled look when kept in a country place such as Holmwood. I remember the very same birds many years ago when called "Dutch everyday layers," while the Golden-pencilled, or rather Golden-spangled, were known as Pheasant Fowls. The Golden-pencilled I do not remember. Then further on were the Rabbits, the variety kept being the Belgian Hare. So what with Pigeons and Wire-haired Terriers, a Dandy Dimont, a prize Cat, fowls of various kinds, and Rabbits—pets abound at Holmwood. Having seen much and admired much, and made pleasant acquaintances, it is time to return to catch the last boat for Stokes Bay; so I drive down, all down hill now, with the silvery Solent glimmering before me, and part from my Holmwood friends with regret.—WILTSHIRE RECTOR.

HECKMONDWIKE SHOW OF POULTRY, &c.

THIS was held on the 14th inst. in connection with the newly-formed Agricultural Society. The schedule was a moderate one and the returns pretty good for a start. The pens were from Sheffield and were in the open air, the entries being near three hundred; but unfortunately the day proved very showery, and many of the birds were wetted.

In poultry the *Spanish* and *Polish* were about the best of the large varieties; but *Bantams* were good in every class, the first winners in all cases being about perfect, notably the Duckwings, to which two specials were awarded; and the Blacks, which were smaller than usual and very correct. In chickens of any variety first were Buff Cochins of grand quality; second good Light Brahmas; and third Gold-spangled Hamburgs, in which pen the pullet was a gem. Ducks and Geese were good but few in number.

Pigeons were a strong lot, but the unfortunate mistake of having them mostly in pairs caused considerable confusion and prevented many from entering. Pouters and Carriers were, however, single birds, and these were very good. The Dun Carrier cock to which the first prize was awarded was in grand form and good all round; second a Black, wanting only in age. Hens, first a young Black of high quality, strong in beak and general build; and second a Dun. In Pouters the cocks were best, some of the best hens being very dirty. Tumblers.—First and special for the best pen in the Show a pair of Almonds, good all round; second an exquisite pair of Yellow Mottles. Long-faces.—First Black Balts and second Red Mottles; a good class. Dragoons good in both sexes; first in both being grand Yellows; second in cocks a Blue and in hens a Silver. Several others good, but many too soft and fleshy in eye. Jacobins a grand lot, and all Reds that were noticed. Turbits mostly Yellows, and very good in head properties. Antwerps were moderate as a class but good as regards the winners. Owls.—First White African and second Blue English. Barbs a very good class, but some too far gone and nearly closed in eye; but the winner's frill in condition and good in eye and skull, all Blacks. Variety class.—First Mottled Trumpeters, second Red Magpies, and two thirds respectively to Grey Frillbacks and Pigmies.

Rabbits few in entries. The winners in Lop-ears were pretty good, the Angoras and Silver-Greys grand, but the Dutch only moderate. In the Variety class first was a good Belgian Hare not in the best order; second a large common-looking Rabbit, which some will no doubt call a Belgian Hare, but in fine order.

POULTRY.—GAME.—Black Red.—1, C. H. Mason. Brown Red.—1, W. Schofield. 2, J. W. Thornton. 3, W. Rudd. Duckwings, Blue or Grey.—1, H. G. Mason. 2, W. Rudd. 3, W. J. Mason. Any other variety.—1, R. Walker. 2, J. E. Crofts. 3, W. J. Mason. COCHINS.—Buff.—1, E. Sidgwick. 2 and 3, W. Mitchell. Any other variety.—1, D. Key. 2, T. W. Terry. BRAHMAS.—1, H. Beldon. 2, J. Rawnsley. DORINGS.—1, H. Beldon. HAMBURGERS.—Gold and Silver-spangled.—1 and 3, H. Beldon. 2, J. Rawnsley. Gold and Silver-pencilled.—1, H. Beldon. 2, J. Rawnsley. Black.—1, Hobson & Robinson. 2, H. Beldon. 3, J. Rawnsley. vhc. C. Sidgwick. J. S. Wilson. SPANISH.—1 and 3, J. Powell. 2, M. J. Thresh. SELLING CLASS.—1, A. & W. H. Silvester. 2, J. E. Crofts. 3, H. Beldon. ANY BREED.—Cock.—1, H. Beldon. 2 and 3, A. & W. H. Silvester. Hen.—1, H. Beldon. 2, Wood & Walker. 3, L. Bowker. FRENCH.—2, H. Beldon. BANTAMS.—Game, Black and Brown Reds.—1, A. Sugden. 2, F. Holt. 3, S. Firth. Game, Any other variety.—1 and 2, F. Holt. 3, I. Goodall. Black and White.—1, J. F. Crowther. 2, H. Beldon. 3, Illingworth & Sheard. Any other variety.—1, J. F. Crowther. 2, H. Beldon. ANY VARIETY.—Chickens.—1, C. Sidgwick. 2, E. W. & H. King. 3, T. Dean. EXTRA PRIZES.—1, R. Walker. 2, Holt (2). Ducks.—Dylesburgs.—1, J. Newton. 2, J. A. Newton. 3, J. E. Crofts. Any other variety.—1 and 2, A. & W. H. Silvester. GEES.—1, H. Beldon. 2, J. F. Crowther. PIGEONS.—CARRIERS.—Cock.—1, H. Yardley. 2, E. Mawson. Hen.—1, E. Horner. 2, G. E. Beaumont. POUTERS.—Cock.—1, J. E. Crofts. 2, E. Horner. Hen.—1, J. E. Crofts. 2, J. Tomlinson. TUMBLERS.—Short-faced.—1, H. Yardley.

2, E. Mawson. *Long-faced*.—1 and 2, W. Lund. *FANTAILS*.—1, H. Beldon. 2, E. Horner. *DRAGONS*.—*Cock*.—1 and 2, R. Woods. *who*, E. Horner. *Hens*.—1 and 2, R. Woods. *who*, J. Ratcliffe. *JACOBIANS*.—1, T. Holt. 2, E. Horner. *TURBITS*.—1, T. Holt. 2, E. Horner. *who*, H. Beldon. *ANTWERPS*.—*Short-faced*.—1, W. F. Entwistle. *Medium-faced*.—1 and 2, W. F. Entwistle. *Long-faced*.—1, E. Rawnsley. 2, J. Robertshaw. *Young*.—1 and 2, W. F. Entwistle. *OWLS*.—1, A. & W. H. Silvester. 2, S. Brier. *BARBS*.—1, E. Mawson. 2, M. J. Thresh. *ANY OTHER VARIETY*.—1, E. Horner. 2, J. E. Croft. 3, R. Wilson. A. & W. H. Silvester. *who*, Founds & Chapel. *SELLING CLASS*.—1, E. Horner. 2, G. E. Beaumont. 3, A. Roberts. *who*, A. Roberts. A. & W. H. Silvester. *EXTRA PRIZES*.—1, H. Yardley.

RABBITS.—*LOP-EARED*.—*Buck or Doe*.—1, Mrs. Roberts. 2, J. Nicholls. *ANGORA*.—*Buck or Doe*.—1 and 2, Mrs. R. Murgatroyd. *HIMALAYAN*.—*Buck or Doe*.—1, J. Robertshaw. 2, W. Whitterton. *SILVER HAIR*.—*Buck or Doe*.—1, S. Ball. 2, J. Robertshaw. *DUTCH*.—*Buck or Doe*.—1, S. Ball. 2, J. Robertshaw. *COMMON*.—*Buck or Doe*.—1 and 2, J. Oddy. *ANY OTHER VARIETY*.—*Buck or Doe*.—1, J. Ramsshaw. 2, A. Atkinson.

JUDGES.—Messrs. Dixon and Hutton.

SNATH SHOW OF POULTRY, &c.

THE annual Show was held in the magnificent and beautifully wooded Park at Snath on Thursday last. The poultry and Pigeons were well protected in a spacious marquee, and well attended to. Game headed the list, but with few exceptions these were poor; but *Dorkings* a capital lot, as also the *Brahmas*. *Hamburgs* good, but few in numbers; and *Spanish* only three, but very good. *Polish* were, first Silver and second Gold, the former winning the cup for the best pen in the Show. With the exception of the winners the Game *Bantams* were but poor. In the Bantam variety first were Blacks and second Silvers.

Pigeons were a better lot than the poultry, both as regards numbers and quality, and the birds generally in good order. *Carriers*.—First a grand Dun cock, and second a Black. *Pouters*.—First a Black hen that won the painting also for the best bird in the section, second a well-known Blue cock; both in capital show form. *Jacobins*.—Red won first, a grand bird; second losing in little but mane, of which it had little. *Owls*.—First Silver and second Blue. *Barbs*.—First and cup Black, and second Red. In *Maggies* were some good ones; both the winners. *Reds*. In *Dragons* a Grizzle was placed first, but we preferred the same gentleman's Silver for that position. *Antwerps*.—First Red and second Silver Dun; both *Short-faces*. In the Variety class first was a White African Owl, and second a good Nun.

There were some *Rabbits*, but nothing of any note.

POULTRY.—*GAME*.—*Black-breasted or Brown Red*.—1, G. Carter. 2, F. Sales. *Any other variety*.—1, F. Sales. 2, J. E. Crofts. *DORKINGS*.—1, J. Walker. 2, J. White. *COCHIN-CHINA*.—1, J. Walker. 2, W. Aaron. *BRAHMAS*.—1, J. Walker. 2, H. Beldon. *HAMBURGERS*.—*Golden-spangled*.—1, H. Beldon. 2, J. Rawnsley. *Silver-spangled*.—1, Fawcett & Anderson. 2, J. Rawnsley. *H. Beldon*. *Golden-pencilled*.—1, H. Beldon. 2, J. Rawnsley. *Silver-pencilled*.—1 and 2, J. Rawnsley. *Black*.—1, H. Beldon. 2, J. Rawnsley. *SPANISH*.—1 and 2, J. Powell. *POLANDS*.—Cup and 2, H. Beldon. *ANY OTHER VARIETY*.—1, T. Addey. 2, J. D. Booth. *BANTAMS*.—*Game*.—1, 2, and *who*, W. F. Entwistle. *Any other variety*.—1, H. Beldon. 2, J. W. Crowther. *BARNDORF FOWLS*.—1, E. Hill. 2, H. Thompson. *GUINIA FOWLS*.—1, H. Thompson. 2, J. H. Rockett. *SELLING CLASS*.—*Price not to exceed 3s*.—1, F. Sales. 2, T. Addey. *Price not to exceed 50s*.—1, Holmes & Destner. *DUCKS*.—1, J. Walker. 2, J. P. Carver. *Any variety*.—1 and 2, J. Walker. *TURKEYS*.—1, J. Walker. 2, T. P. Carver. *GEESSE*.—1, H. Beldon. 2, J. Walker.

PIGEONS.—*CARRIERS*.—*Cock or Hen*.—1, H. Yardley. 2, F. Seaton. *POUTERS*.—*Cock or Hen*.—1 and Painting. C. Wood. 2, J. E. Crofts. *JACOBIANS*.—*Cock or Hen*.—1, T. Holt. 2, T. S. Stephenson. *TRUMPETERS*.—*Cock or Hen*.—1, E. A. Thompson. 2, J. E. Croft. *TURBITS*.—*Cock or Hen*.—1, H. R. Tenney. 2, J. E. Spence. *H. Yardley*. *FANTAILS*.—*Cock or Hen*.—1, H. R. Tenney. 2, J. E. Spence. *TURBITS*.—*Cock or Hen*.—1, G. Sadler. 2, R. Wood. *OWLS*.—*Cock or Hen*.—1 and 2, J. W. Stansfield. *BARBS*.—*Cock or Hen*.—1, Cup, and 2, S. Dyson. *MAGPIE*.—*Cock or Hen*.—1, R. Wood. 2, J. E. Crofts. *DRAGONS*.—*Cock or Hen*.—1, R. Wood. 2, H. Yardley. *ANTWERPS*.—*Cock or Hen*.—1 and 2, W. F. Entwistle. *ANY OTHER VARIETY*.—*Cock or Hen*.—1, H. Yardley. 2, F. Seaton. *SELLING CLASS*.—*Cock or Hen*.—*Price not to exceed 25s*.—1, F. Seaton. 2, R. Wood. *Price not to exceed 5s*.—1, S. Dyson. 2, H. Yardley. *ANY VARIETY*.—*Buck or Doe*.—1, O. Stephenson. 2, J. Armstrong.

JUDGES.—*Poultry*: Mr. J. Crosland, Wakefield; Mr. J. Dixon, North Park, Clayton, Bradford. *Pigeons and Rabbits*: Mr. J. Hawley, Gillington, Bradford; Mr. J. Crosland.

TEACHING CANARIES TO SING.

WHETHER for the purpose of tutoring young Canaries under choice songsters, or teaching them to sing with the aid of a flageolet or bird organ, one important point is to remove those to be taught from birds of indifferent song; or out of the hearing entirely of all birds if the young are to receive instruction from an instrument.

Now-a-days the chief aim of Canary fanciers appears to be the breeding and study of fine-plumed birds for exhibition purposes; but this was not so much the case with fanciers of past ages, who studied the cultivation of song more than is done by fanciers of the present period, at least in this country.

The name of Hervieux (a writer of a treatise on Canaries) is not unknown to many readers of our Journal, and from him we quote at what time and in what manner Canary birds may be put-up to be taught with a flageolet.

"It is a certain truth that, next to the Nightingale, the Canary bird sings best and has the strongest voice of any little bird. When young they easily learn what they are taught, as airs and tunes on the flageolet. For my part I prefer them before the Nightingale, because they are much harder to rear than Canary birds. . . . The Nightingale, after all the pains taken in feeding and rearing, generally sings but one short season of the

year, whereas our Canary birds are continually warbling at all times. For these reasons I think the Canary ought to be preferred notwithstanding the Nightingale's notes are somewhat more harmonious."

As proof of the hatred Mr. Hervieux entertained against the barbarous practices of depriving the birds of their vision and enclosing them in stifled prisons he says, "As for the time when a Canary bird is to be put into a separate cage in order to teach him, that is commonly eight or ten days after he feeds alone, and not, as many do, who take him out the first day they see he feeds alone, without allowing him time to gather strength. They unmercifully shut him up in a box—a sort of so-called cage all shut up with boards, with some little holes that they may not be quite stifled for want of breath. That poor little creature, being thus scarce able to breathe, and being deprived of proper air which strengthens the body almost as much as food, grows melancholy and pines away, so that it often dies in a few days in its dismal prison. If you desire to succeed better in that point you must observe this method.

"A fortnight at soonest after your Canary bird has been taken from the hen, if you perceive he begins to warble, which is a good sign that he is a cock and in good health, part him from the rest and put him into a cage covered with a very thin transparent linen cloth for the first eight days. Put him into a room distant from all other birds whatsoever, so that he may never hear any of their wild notes, and then play to him upon a little flageolet; the notes whereof not too high, for if your flageolet is too loud your Canary, who will not fail to follow the same tone when he has learnt the air, and will repeat it several times a day, will so dry up his lungs that it will cause him to grow lean and die in a few days.

"At the end of a fortnight take away the linen cloth and supply it with a piece of thick green or red serge, and leave him still in the same place till he perfectly learns what you teach him. Some Canary birds are more apt to learn than others, for some are perfect in two months and others not in six; but you must have patience when you resolve to teach them anything, without it nothing can be done. When you give him his food, which must be enough for two days at least, it must be done by candlelight, that he may not be distracted, but may learn what he is taught the sooner.

"As for the tunes, he must be taught only one fine prelude and a choice air. When they are taught more they are apt to confound them, and being taught too much they often know nothing perfect, their memory becoming overburdened, so that they know not what they sing. Besides, their distemper of moulting, which is once a-year [or should be if kept in a steady and regular temperature], and lasts above two months, diverts them, so that they do not sing, and consequently easily forget the tunes they have been taught with so much trouble.

"Do not follow the notion of those who think that the many lessons they give their Canaries every day improves them the more; they tire themselves and only make the birds uneasy. Five or six lessons a-day are sufficient for a Canary, though he be ever so little disposed to learn; besides, the trouble would much outweigh the pleasure if a man were to be continually about his Canary birds. You must, therefore, give them but two lessons in the morning when you rise, another about noon, and the same before bedtime. The morning and evening lessons benefit the birds most, because at those times when all is still, the birds being less diverted, better retain what is taught them. The tunes taught them must be repeated nine or ten times at every lesson, and those same airs must be played running without repeating the first part of them twice, and the conclusion in the same manner, as is usually done in concerts or other playing. A grey Canary bird of a good breed is more apt to learn from a flageolet than any other sort of Canary. You must not pretend to teach two Canary birds in the same room, much less in the same cage, as many have attempted to do. If that be done it must be only for a time—that is, as soon as one of the two begins to take the tune, then they must be immediately parted at such a distance that they may not hear one another, because they will do nothing but distract each other, and it would be all lost time to them and to him who teaches the birds."

In the book from which the above is quoted the prelude and air spoken of are given.—G. J. BARNESBY.

APIARIAN EXPERIENCES IN 1877.

It may be interesting to some of your apiarian novices to follow the fortunes of an old bee-keeper, and therefore I shall narrate here the fortunes of my apiary thus far in the present season.

Let me say by way of preface that I do not go in for keeping bees so much with a view to make if possible £70 a year, or indeed anything in the way of profit beyond supplying the wants of my household and those of a few friends, and so I am content to keep but few hives.

This year opened with fair prospects of success. One hive in an oblong box of good size in a bee house was exceptionally

strong both in population and supplies. It had a young half-breed Italian queen of last year breeding as well-marked workers as many an imported queen. This hive was carrying pollen more or less all the winter and very largely in February, so much so that the bees kept up a summer-like humming throughout that month; nor did the hive cease working like some others in the miserably cold weather of March and April. For all that the hive did not swarm till the 31st of May, at least a month later than it would have swarmed in ordinarily seasonable weather. The swarm, however, was so large that in the course of three weeks with the fine weather of early June it had completely filled its box—a fac-simile of the parent hive, and constructed seven combs full of honey, but not all sealed up, in a super. Since then there has been absolutely nothing harvested nor any more comb made. The honey is fast disappearing from all the open cells, and the bees have shrunk in numbers apparently to about half what they appeared before; and yet a quantity of brood must have been hatching every day since the 21st of June, for I saw quantities of sealed brood in several combs; moreover there is hardly a drone to be seen in the hive nor in any other part of my apiary save where I have young queens coming on or just winged. I am writing on the 6th of July, in the midst of thundery weather and with quantities of white clover in bloom in our rich pastures, yet the impoverishment of the hives continues everywhere. Nor can the weather be complained of, since it has been for the most part bright and hot, though not so hot as in the early part of June. It seems to me that flowers do not generally bear honey in any quantity until the plants that produce them have reached their full prime. This occurs generally in pretty even distribution, all the plants reaching that prime pretty well together. Then, if the weather is propitious, often quite suddenly, the secretion of honey begins, and continues in the case of that particular plant for several weeks at a time. The forwardness or lateness of the season has much to do with the time when this secretion of honey commences and continues.

Hereabouts we have but two such periods of honey supply in the year. I believe this is the common experience in all parts of England where heather is not found; and even where heather abounds the duality of the honey seasons usually prevails, for in this case there is commonly a scarcity of apple and other fruit blossoms, and not much honey is collected in May. The clover is late this year—fully three weeks or even a month behind time; I am therefore not without hopes that we may get a fair yield of honey yet. I have known it come in quantities so late as the first week in August.

To return to my apiary. The stock which gave me the swarm of May 31st threw off a cast fully equal in size to the original swarm on the 9th of June. This was hived in a box of the same character and size, not bar-framed, and was located in the old stock's place. To my surprise the latter, though moved to no great distance in my garden, and consequently losing almost every fully-grown bee, recovered population so rapidly that it is now as strong a stock as any in my apiary. I must, however, state that this stock is the one referred to in my communication at page 23 of the current volume of this Journal, into which the queen of a neighbouring hive is supposed to have entered when returning home after an abortive attempt to swarm. Certainly a large portion of the returning swarm entered it and remained there.

It will thus be seen that my best stock has multiplied itself to three, all equally strong in population or nearly so. The swarm and old stock are well supplied with comb and honey, while the cast is already three parts full of comb, although sharing the general stagnation of the apiary at the present moment. The swarm and cast too have both supers partially filled by them with comb and honey, but it remains to be seen what my honey harvest will be. As I am shortly leaving home for a month it will be some time before I can report progress. Meanwhile let us hope for continuous fine weather suitable for the ingathering.—B. & W.

OUR LETTER BOX.

At the Staffordshire Poultry Show, advertised to-day, we see several classes not previously patronised; among them are Black Cochins and Leghorns any colour. We believe every care will be taken of the birds, and to return them immediately after the Show.

FRENCH EGGS.—The declared value of eggs imported this year to the 30th ult. was £1,494,885, against £510,563 in the same period last year.

VARIOUS (T. Hill).—We cannot publish Cowan's honey extractor. Write to the special rose nurseries for those you need. The lectures on bees have not been published.

BEES CASTING OUT WHITE DRONES (Novice).—The grubs are young drones that have been born from their cells before arriving at maturity. In unfavourable seasons such as the present one bees not unfrequently cast out imperfect drones, and their doing so may be viewed either as a precautionary measure against dreaded poverty and starvation, or as an indication that their hopes and anticipations of future success are somewhat checked and blighted by unfavourable weather. Shall we trace the conduct of bees in the destruction of brood to their wisdom or thought? Premeditation there must have been, followed by united action. Hives that are full enough for swarming and prepared to some extent for swarming are often discouraged by a change of weather, and begin to cast out unhatched brood and sometimes

destroy perfect drones. Such hives are on the confines of poverty, and abandon for the time being the idea of swarming. On a return of fine weather the hopes of the bees are once more excited, all their combs become filled with brood, and preparations for swarming again take place. This may happen more than once in a season unfavourable for honey-gathering if artificial feeding be not resorted to. In cold seasons, and also at the end of all seasons, we find that bees kill and cast out drones which are in such times useless members of their communities. It is doubtless an instinct of their economy to do so, and may be viewed as a wise provision of nature. This season one of my hives began to cast out white drones a few days after it had yielded a first swarm—a most unusual occurrence. The swarm of our correspondent which was obtained on the 10th of June and housed in a Nutt hive has probably not filled its hive with combs, and therefore is not ready for supering or entering a side compartment of the hive. In this part of Cheshire the season has been worse for bees than any we have had for many years. The appearance of white drones outside our hives in the middle of July fore-shadow that our sugar bees may be as much needed as our honey jars in the autumn of 1877.—A. PETTIGREW.

RABBITS (Lackfield).—Buy our Rabbit manual. You can have it free by post if you enclose eight postage stamps.

DRESSING RABBIT SKINS (Small Boy).—Take the skin as fresh as possible, and having mixed a sufficient quantity of salt and water till it will bear an egg, saturate it with alum. Put the skin into this bloodwarm, and let it lie and soak twenty-four hours; then take it out, and having tacked it upon a board (the fur inwards) scrape the skin, and a thin membrane will come off; then, having warmed up the pickle again, put the skin into it a second time, and let it remain five hours more, after which take it out and nail it upon a board to dry (fur inwards), and then rub it with pumicestone and whitening. Hare and other skins may be prepared in the same way. They are always in best condition for preparing in the winter.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.				
	Barometer at 89° and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of Soil at foot.	Shade Temperature.		Radiation Temperature.	
		Dry.	Wet.			Max.	Min.	In sun.	On grass.
1877.									
July.									
We. 11	29.084	64.0	60.0	N.W.	deg.	deg.	deg.	deg.	In.
Th. 12	29.999	65.2	57.6	E.	61.9	75.6	53.3	118.0	45.4
Fri. 13	29.779	64.0	60.1	W.	62.0	75.6	49.6	127.1	47.1
Sat. 14	29.568	66.9	63.0	S.	63.6	69.8	59.8	110.8	57.6
Sun. 15	29.210	64.8	59.4	S.W.	62.4	69.5	55.8	119.2	55.8
Mo. 16	29.859	60.7	58.2	S.E.	61.8	63.3	54.4	98.6	50.6
Tu. 17	29.483	60.2	57.4	S.W.	60.1	63.6	55.0	84.0	53.0
Means	29.440	63.6	59.4		62.0	70.3	54.5	110.5	51.7

REMARKS.

- 11th.—Dull and stormlike all the morning and till past noon, after that fine and pleasant all day.
 12th.—Fine but rather overcast at 9 A.M. and till noon; the after part of the day very bright, with fine evening and night.
 13th.—Beautifully bright with nice breeze all day, but rain at 10.40 P.M.
 14th.—Wet at 9 A.M., fine before noon, but showery after, and a very wet night.
 15th.—Rain in early morning, fair at 9 A.M.; sunshine and showers alternately all day, the rain at times very heavy; thunder about 2 P.M.
 16th.—Fine early, but rain began before 9 A.M., and continued all day and night except in the evening.
 17th.—Dull, grey, showery day throughout.
 Mean barometer much lower than during the preceding week. The mean 9 A.M. temperature about 2° and the night temperature 9° higher; but the sun temperature is 9° less, the rain was both frequent and heavy, and in the early part of the week thunder was heard almost daily.—G. J. SYMONS.

COVENT GARDEN MARKET.—JULY 18.

THE late rains have damaged the outdoor fruit very much, most of it arriving in very bad condition, and causing prices to fall. There is still a good demand for first-class goods, such as Peaches, Nectarines, Pines, Melons, and the higher qualities of Grapes. Trade steady.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Appricots..... doz.	1	6	to	3	0	Melons..... each	3	0	to 8 0
Cherries..... lb.	0	8	to	1	0	Nectarines..... doz.	5	0	20 0
Currants..... sieve	8	0	4	6	Oranges..... doz.	10	0	16 0	
Black..... sieve	0	0	0	0	Peaches..... doz.	8	0	30 0	
Figs..... dozen	8	0	12	0	Pine Apples..... lb.	2	0	5 0	
Gooseberries..... bushel	5	6	to	4 6	Raspberries..... lb.	0	6	0 0	
Grapes, hothouse..... lb.	2	0	2	0	Strawberries..... lb.	6	1	6 1	
Lemons..... 100	6	0	10	0	Walnuts..... bushel	5	0	8 0	

VEGETABLES.

		s.	d.	s.	d.			s.	d.	s.	d.	
Artichokes.....	dozen	8	0	to	6	Mushrooms.....	pottle	1	6	to	2	0
Asparagus.....	100	0	0	0	0	Mustard & Cress.....	punnet	0	2	0	4	
Beans, Kidney..	100	0	6	1	0	Onions	bushel	0	0	0	0	
Beet, Red	dozen	1	6	8	0	.....	pickling.....	quart	0	4	0
Broccoli	bundle	0	9	1	6	Parsley..... doz.	bunches	2	0	0	0	
Brussels Sprouts.....	sieve	0	0	0	0	Parsnips.....	dozen	0	0	0	0	
Cabbage.....	dozen	1	0	2	0	Peas.....	quart	0	6	1	0	
Carrots.....	bunch	0	9	1	3	Potatoes.....	bushel	2	6	4	6	
Capsicums.....	100	1	6	2	0	Kidney.....	bushel	3	0	5	0	
Calliflowers.....	dozen	2	0	4	0	Radishes..... doz.	bunches	1	0	1	6	
Celery.....	bundle	1	6	2	0	Rhubarb.....	bundle	0	6	1	0	
Coleworts doz.	bunches	2	0	4	0	Salsify.....	bundle	0	9	1	0	
Cucumbers	each	0	6	1	0	Scorzoneria.....	bundle	1	0	0	0	
Endive.....	dozen	1	0	2	0	Seakale.....	basket	0	0	0	0	
Fennel.....	bunch	0	8	0	0	Shallots.....	lb.	0	8	0	6	
Garlic.....	lb.	0	6	0	0	Spinach.....	bushel	2	6	4	0	
Herbs.....	bunch	2	0	0	0	Turnips.....	bunch	0	9	1	0	
Lettuce.....	dozen	1	0	2	0	Veg. Marrows ..	each	0	4	0	0	
Leeks.....	bunch	0	4	0	0							

WEEKLY CALENDAR.

Day of Month	Day of Week	JULY 26—AUG. 1, 1877.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
26	Th		73.7	50.3	62.0	4 17	7 56	8 40	5 6	16	6 14	207
27	F	Queeket (Microscopical) Club Anniversary at 8 P.M.	74.9	50.7	62.8	4 18	7 54	8 52	6 19	17	6 14	208
28	S	Royal Botanic Society at 3.45 P.M.	76.4	50.8	63.6	4 20	7 53	9 2	7 30	18	6 18	209
29	SUN	9 SUNDAY AFTER TRINITY.	75.5	49.9	62.7	4 21	7 51	9 12	8 40	19	6 11	210
30	M		75.2	50.2	62.7	4 23	7 50	9 23	9 49	20	6 9	211
31	Tu		74.9	50.0	62.4	4 24	7 48	9 34	11 1	21	6 6	212
1	W	LAMMAS DAY.	75.6	50.4	63.0	4 26	7 46	9 48	0 15	22	6 2	213

From observations taken near London during forty-three years, the average day temperature of the week is 75.2°; and its night temperature 50.3°.

CONDITION AND QUALITY OF MELONS.

MELONS were generally very poor last year in the south; they were small in size and indifferent in quality. I had the opportunity of tasting many fruits exhibited—perhaps nearly all—at the metropolitan shows, and very few really first-class Melons were submitted to the judges.

Two of the best fruits of the year—good in size, handsome in appearance, and of excellent quality, were Eastnor Castle, green flesh, exhibited at the Royal Botanic Society's Show, and Blankney Hero, exhibited at the Alexandra Palace. Reid's Netted was excellent in most instances, as was the good old variety Turner's Golden Gem; nor must I omit mentioning a fruit of A. F. Barron, exhibited by Mr. Pithers at the Richmond Show, which was certainly one of the best Melons of the year. Several good fruits of Victory of Bath were also exhibited, while others were indifferent in quality.

What was the cause of the low standard of quality of Melons last year? and what is the reason that the same variety is so variable in quality even when exhibited by the same cultivator?

These two questions may be worthy of a little consideration at the present time. I can only attribute the general unsatisfactory condition of so many fruits to excessive heat and its consequence a deficiency of moisture, also to the somewhat marked prevalence of red spider. My reason for attributing the flavourless character of many fruits to extreme heat and drought is in a measure derived from the fact that Melons in the northern counties, where the heat was less intense, were, as a rule, greatly superior to Melons in the south last year. I have observed also during several years of practice that it is a mistake to adopt a fixed rule in withholding water from Melons when they are approaching the ripening stage. That is a very old custom which was adopted by our forefathers, and it is surprising our old customs—simply because they are old—cling to the inhabitants of our old country. Our forefathers may have been right in the practice which they adopted, and I believe they were right; but—a very important “but” is that—they grew Melons on dung beds, while many are now grown over hot-water pipes.

I was told by a gentleman the other day that the standard quality of his Melons was better half a century ago than it is now. That is a strange comment on the “progress of the age,” and somewhat interferes with the “great improvements” which have been recorded during every consecutive year of the present generation. I am inclined to believe that the gentleman alluded to was right, first because he is an excellent judge of Melons and is most observant in comparing the quality of garden produce, and secondly because I never remember having tasted better Melons than the old Beechwoods of thirty and the Bromham Halls of more than twenty years ago.

The best Melon supply that I am cognisant of was

produced in a nobleman's garden about the period last alluded to, and where Bromham Hall was almost exclusively grown. I mean by that, that many large frames were devoted to that variety, and the fruit of it was counted by hundreds, while other varieties were only grown “for trial”—a plant of a sort, and not one was at that time found to equal Bromham Hall. Never do I remember hearing a single complaint of inferior quality when that good old sort was sent in for dessert; and never do I remember taking fruit to either local or the great metropolitan exhibitions which did not win first honours.

The Melons, as remarked, were grown in dung-heated frames; a few were grown in a house heated with hot water, but the prize Melons were always cut from the frames. The gardener—for I was only an “under-strapper” then—was an excellent cultivator of fruit and plants generally and of Melons particularly. I never knew a gardener to give so much water to Melons as he did, and he continued it until the very day of cutting the fruit. Not a red spider was permitted on the foliage; the frames were kept too moist and the foliage too stout in texture for this pest gaining a footing, and every leaf was fully exposed to the light. There was not the slightest semblance of overcrowding of the foliage, and pruning as it is generally understood was not adopted. Every afternoon when watering, every shoot that was not wanted was picked-off with the finger and thumb before it was an inch in length; thus no check was given to the plants and no useless growth permitted in the frames. Overcropping was particularly guarded against, and the foliage when the fruit was cut was as green and healthy as at any period during the season; indeed the early plants (the first crop was ripe at the end of May) always produced two crops. The plants were frequently watered and their foliage sprinkled with perfectly clear soot water. To that I attributed their extreme health, the rich dark clean foliage, and the absence of red spider.

The grower of those Melons was an excellent judge as to the exact time for cutting the fruit and placing it on the table. Many times have I seen a fruit rejected as being “too ripe”—a day too old. Its perfume has been rich, but when cut the general quality of the fruit has almost invariably not been perfect. I think there is a great deal in placing a Melon on the table just at the right time; and I think it possible that they are often placed there and sent to exhibitions a day too late. Unless that is so, how can we account for the great difference in quality of Melons of the same variety? I could submit several instances of the variations of Melons on the point of quality, but two will suffice. Last year Mr. Frisby exhibited a Melon named Cocoa-nut before the Fruit Committee of the Royal Horticultural Society, but as then staged the fruit was comparatively flavourless, and the Committee were not justified in awarding it their approval. Subsequently a fruit of the same variety was exhibited at the Alexandra Palace, and was awarded a first-class certificate, Mr. Douglas—who is also a member of the Fruit Committee of the Royal Horti-

cultural Society—having been one of the judges. That excellent Melon was purchased by Messrs. James Carter & Co., and was named Blankney Hero. Another instance of a Melon showing extreme variation in quality was afforded by my own experience. I had a very fine and highly perfumed fruit of Bromham Hall which I intended to win first honours at an exhibition. I was annoyed by an important dinner party occurring the night previous to the show, and the very best Melon was demanded on the table. Emphasis was laid on the "very best," because the Melons, as a rule, had not quite given satisfaction that year. I felt compelled, therefore, to send in my fine exhibition fruit, and was more annoyed than ever to receive the verdict of "not good" with more than half the Melon which was handed to me the next morning. To the verdict I was obliged to agree, for certainly the fruit was "not good." It occurred to me that it must have been over-ripe—a day too old, and therefore I cut from the same plant another fruit which I considered not fully ripe, but which required one or two more days to perfect, and took it to the show. It was awarded the first prize unanimously. Its perfume before being cut was not remarkable, indeed scarcely noticeable, but its quality proved extremely rich. I then felt satisfied that I had fallen into the habit that year of keeping the Melons a day or two too long before I considered them in the best condition. I changed my mode of judging them, cutting them and sending them to table earlier, even before the aroma appeared to be fully developed, and not one fruit was afterwards found fault with during the whole of the season. With many fruits all the care in culture had been rendered nugatory by an error of judgment as to the time of sending it to table. I think it possible that similar errors are made by others in exhibiting Melons; they keep them as they think until the fruit is just at its best, and in doing so keep it a day too long.

The subject may be worth mentioning now, and also the practice, which has proved successful, of not "drying off" the plants during the ripening period. Keeping the foliage clean, fresh, and healthy until after the fruit was cut, and staging it just before its full aroma appeared to be developed, resulted in some of the best Melons being produced and the best prizes won with them which have come under my notice during a tolerably long period of practice.

The best Melons which have been exhibited in the south this year have been Victory of Bath and Excelsior by Mr. Gilbert, Reid's Netted and Cox's Golden Gem by Mr. Miles at the Royal Botanic; and Bloxholm Hall by Mr. Crane, and Eastnor Castle by Mr. Clifford at the Bickley (West Kent) Shows.—J. W.

SWEET-SCENTED CLIMBING PLANTS.

It is early morning, the time 5.50. I have just opened a window of my sitting-room, letting-in the fresh morning air laden with a perfume so rich that in a few minutes it pervades the whole of the house, and one sniffs it with a gusto which must be something akin to that of the bees, already at work busily sucking honey from the flowers whence it comes, and which are so truly worthy of their old familiar title of Honeysuckle. As I inhale the delicious perfume the thought arises, Is not this worth telling the readers of the Journal about? But then it has already been done indirectly more than once; and yet how seldom does one meet with the plant in full perfection! so I beg of all who desire to have fragrant climbing plants to read what I shall write and to do as I shall ask.

I think it would not be incorrect were I to assert that my Honeysuckle bears away the palm for sweetness, not only from other sorts of its own species, but from all other plants. "What!" you exclaim, "have you forgotten the Violets about which Mr. Abbey wrote so pleasantly and usefully the other day, the Mignonette, Lily of the Valley, Stephanotis, and Jasmine?" No, I have not forgotten them, I grow and like them all; but not one of them is equal to my Honeysuckle, which gives off waves of scent continuously—scent so rich and yet so delicate withal that it never cloy the palate, never offends and oppresses like a Lilium or Magnolia.

The scientific appellation of my Honeysuckle is *Lonicera flexuosa*. It has very long flexible growth thickly clothed with foliage of the deepest shade of green, most of which it retains throughout the winter; and for a long time in summer its young growth is laden with thousands of deep red, slender, tubular flowers, giving forth the fragrance which now fills my house. Its growth is wonderfully strong, stout, and free, running in a

few seasons to the top of a high building, and at the same time spreading-out so thickly and well laterally that it clothes whatever surfaces it is trained upon perfectly in every part—a property of no mean value, for many of our best climbers are often bare of foliage for several feet from the ground. When its flowers fade in summer it is my custom to prune it, cutting off all the pendant breast shoots, which induces a fresh growth that in a mild autumn bursts freely into flower.

It answers perfectly and grows with equal rapidity upon every aspect, and once established in good soil its roots require no further care—no annual dressings of manure or soakings of sewage like the Rose. We have here, then, a plant of great excellence, flourishing in all soils that are tolerably fertile, upon all aspects, and in all situations; spreading its trailing growth over masses of rock as freely as it mounts upward upon the sides of a lofty building, clothed with foliage throughout the year, and in summer bearing a profusion of flowers unrivalled for sweetness. It is so readily propagated and so easily managed that you may procure a strong plant of it in a pot from any nurseryman for 1s. Its growth is so flexible and free, and bears pruning so well, that it may be allowed to mingle with Tea Roses or other especial pets, and yet readily be kept within bounds.

In *L. brachypoda* my favourite *flexuosa* has no mean rival, each bearing the closest resemblance to the other in habit and freedom of growth, abundance of flowers, fragrance, and time of flowering, both being now in full perfection; but *L. brachypoda* is as distinct as possible from *L. flexuosa* in point of colour, its flowers being white and pale yellow, and with foliage and branches of a light green hue, in charming contrast to the deep colours of *L. flexuosa*, so that they may be planted together with the happiest effect. It would not surprise me if preference were most generally given to *L. brachypoda*, for a large plant of it when in full bloom presents a singularly elegant and striking appearance.

L. grata, also very sweet-scented and now just past its best, is altogether a bolder type of Honeysuckle. Its growth is stouter, and the foliage and flower clusters proportionately larger; but it altogether lacks the graceful refinement of *L. flexuosa* and *L. brachypoda*, for, apart from an air of coarseness, its growth is rigid and erect—a real advantage when the plant is well placed and suffered to ramble, for then it puts forth wonderfully robust shoots, bearing huge clusters of flowers which tell well upon a pillar or high-up on the wall of a lofty building.

L. fragrantissima, which comes into flower in early spring, is so sweet that I must not omit to name it here. It is a most distinct variety, with a stout, erect, shrub-like growth, and handsome evergreen foliage.

The perfume of a Honeysuckle prompted me to write this note. To the Honeysuckles precedence has been given as due, but I must not omit mention of such sweet-scented climbers as we have in the Wistaria, Jasmines, Chimonanthus, and Clematis flammula; the last-named plant has rightly been described as being as fragrant as a Hawthorn.—EDWARD LUCKHURST.

THE AIR-TIGHT VINERY.

In answer to the request of "W. L. A." as to construction of an air-tight vinery, I beg to inform him that the important points are—that the building should run direct north and south, and that the sides should be at such an angle as to cause the rays of the sun to glance off during the scorching hours of the day. The building may be of any length. As it costs 10s. per foot run, £50 goes a long way, and if the soil be well prepared half this sum may be obtained by selling the Grapes yearly, as they come in early; and even after they are ripe they may be kept hanging some time to insure a good market, as the building is air-tight, and quicklime placed in small heaps absorbs all moisture.

The roots also can be kept dry at this time by placing over them brown paper steeped in the thin kind of creosote (reams of paper may be soaked at a time). The mode of placing this waterproof covering on the border is in this way:—You must have a net (also steeped in this creosote, which makes it lasting), which is to be stretched tightly over the border by means of strong cord tied to the sides. By wooden stumps it can be fixed in a slanting position to throw off rain. The paper is placed evenly on this net, and another net is stretched over it to keep it in its place. This will last for several years.

But to proceed with the building. The sides should be 8 feet in height, the ground floor 7 feet wide, the roof 3 feet

wide. This may be flat, or rather 1 inch higher on one side; it may be of two pieces of glass abutting in the centre. The woodwork should be grooved and the glass well puttied-in; the uprights joining the sides are to be grooved and puttied. I cannot recollect a single square of glass having been broken for eight or nine years. There is a door at each end on the south side: the end is always whitewashed. This prevents red spider, which always used to attack the last Vine in the S.W. corner. It has never done so since, showing that whitewashing prevents red spider. The whole forms an avenue of Grapes, and has a very pretty effect.—OBSERVER.

GARDEN ROSES.

OF all the floral embellishments of the garden the Rose is the greatest favourite and is the most generally cultivated, for it is grown in almost every garden, from that of the palace to the home-plot of the humble cottager. Eulogium were it attempted must fail to do justice to the charms of the queen of flowers. Poets of all nations have sung its praises, but have not found language sufficiently emblematic of its beauty, for its allurements are ever increasing. The Rose affords beauty in its fairest, brightest, and richest aspect, with a fragrance that is delightful; in fact, it possesses a combination of qualities which renders it superior to every other flower.

Profuse displays are most aimed at in gardens, a luxurious profusion of flower, filling the eye with colour and the atmosphere with fragrance. I have a good recollection of what a blaze of beauty our rosaries were for a time when summer Roses were in their glory: the immensity of bloom produced was something wonderful. Yet we may have a mass of colour produced by blooms which are individually inferior. Some summer Roses are indeed very beautiful—perfect in form, very lovely, and worth a place in gardens, but a majority are only suited for semi-cultivation. Have as many as there is room for at the outer boundary of the rosery, employing the strong growers with the climbing class for clothing poles, buildings, &c., requiring ornamentation; but as Roses for the garden their day is past, if for no other reason than their short period of flowering.

Summer Roses being "out of the race," and as everyone "pats" the winning horse, I will pass on to the description of Rose most in request in gardens. In a Rose for the garden we must have a variety excelling in form, size, substance of petal, and continuity of flowering, fragrance being an additional recommendation. These qualities we have in autumnal Roses. For a Rose garden a sheltered situation should be chosen, for though Roses like sun and air the foliage and flowers suffer in exposed positions from winds. A low screen of shrubs or the hardier and commoner kinds of Roses are suitable for shelter. The ground should be well drained and trenched as deeply as the good soil will permit, working-in good manure liberally. There is nothing like a good foundation. Nothing beats good sound rather strong loam for Roses, which may be trenched 2 or 3 feet deep; but it is little use bringing-up the "brash" that underlies many shallow soils, though it is desirable to loosen it to some extent and apply a good dressing of manure. Very strong loams will need little beyond manure, whilst shallow light soils will be improved by applications of strong loams or even marl.

In choice of plants dwarfs are preferable to standards, especially in exposed situations. A few standards may be desirable to give variety of form and height, but as a rule standards do not look well in a rosery, and are not so satisfactory as dwarfs. Dwarfs upon the Manetti stock are most suitable worked low, so that the whole of the stock may be buried beneath the soil, the junction of stock and scion being about 3 inches beneath the surface soil. I will omit details of planting, as these may be more appropriately alluded to as the autumn approaches, but I may mention a few points which should be attended to during the summer.

The "worm i' the bud" will need to be seen to, than which there is no better remedy than hand-picking and squeezing the folded-up leaves, and insects must be kept under by syringing the bushes with a solution of soft soap, 2 ozs. to the gallon of water. The foliage is also much refreshed by syringing overhead in the evening of hot days. Water and liquid manure can hardly be given too freely in parching weather, especially to Roses in shallow soils. Mulching with short material is also good, inasmuch as it retards evaporation, keeping the soil more uniformly cool and moist. We have only to cut away the flowered shoots to the first good leaf beneath the

flower after the petals are shed, and stop any gross shoot not flowering at the height of the blooming or bloomed shoots so as to keep the heads compact, and we may rely upon a continuity of flowers until frost.

It is a common idea that Roses in beds or masses should have the shoots pegged down, to which there can be no objection when profusion and not perfection of blooms is sought. It is a practice that answers well for sloping banks, the shoots being pegged down much in the way of Laurels, and the young growths kept within bounds by timely removal of such as grow too long and mar the effect. For pegging down the plants should have the shoots encouraged the first year, allowing them to grow at will, the object being to secure as many long shoots as possible, and as near as may be of uniform strength. After they have grown a foot or more in length the shoots should be secured by pegs in an oblique direction, but not bringing them close down, all weak shoots being cut clean away, seeking to impart as much vigour as possible to the primary shoots. The shoots, after the ground has been duly manured and dug, may be pegged close down. No pruning is required beyond cutting off the unripe ends of the shoots. Every eye will give its flower or truss of flowers, and the effect is certainly superb; yet the blooms are not worth much as compared with those grown on bushes. Such an unnatural mode of growing the Rose as pegging it down only serves a special purpose, and is not to be advised when good blooms are wanted. It is mentioned because every phase of Rose culture should be noticed in a journal having so many "Rose readers."

Hybrid Perpetuals, as before stated, are most suitable for gardens and make splendid masses, it being advisable to employ but one kind in a mass or to keep the lines distinct by having varieties that will contrast in colour. The following in their respective colours are good for masses, have well-formed flowers, producing them freely, and have good constitutions. They are good alike for garden or house decoration.

Dark Crimson.—Charles Lefebvre, Prince Camille de Rohan, Fisher Holmes, Lord Macaulay, Louis Van Houtte, Duc de Rohan, Eugène Appert, Pierre Notting, Charlotte Corday, Le Rhone, and Maréchal Vaillant.

Red or Crimson.—François I., Général Jacqueminot, Alfred Colomb, Beauty of Waltham, Dupuy-Jamain, General Von Moltke, Madame Victor Verdier, Sénateur Vaisse, Thomas Mills, Prince de Portia, and Comtesse d'Oxford.

Rose and Pink.—La Ville de St. Denis, John Hopper, François Michelon, Baronne Prevost, Comtesse de Chabillant, Anna Alexieff, Abel Grand, Annie Laxton, Auguste Mie, Baronne de Rothschild, Berthe Baron, Capitaine Christy, Jules Margottin, La France, Lyonnaise, Madame Clert, and Edouard Morren.

White or Blush.—Boule de Neige, Madame Lacharme, and Mademoiselle Bonnaire.

Fragrant Hybrid Perpetuals.—Baronne Louise Uxkull, rose; Bessie Johnson, blush; Claude Levet, crimson; Duchess of Edinburgh, pink; François Courtin, crimson; Madame Eugène Appert, rosy pink; Madame Ferdinand Jamin, rosy carmine; Madame Vidot; Mademoiselle Marguerite Dombrain, rose; Marie Thérèse, rose; William Jesse, rose; Oxonian, rose; and Queen Eleanor, rose. Of the newer kinds Rev. J.B. M. Camm and Miss Hassard have sweet-scented flowers.

The next Rose that I will name is the Damask Perpetual, Crimson Perpetual, or Rose du Roi, crimson, than which there is no finer and sweeter for cutting from in late summer. A large bed of this and Mogador or Crimson Superb ought to be in every garden. They require liberal treatment—that of Hybrid Perpetuals.

In *Perpetual Moss Roses* we have Souper et Notting, rose and fragrant; and Mrs. W. Paul, rose, one of the freest blooming of this family, while few are prettier in the bud state than the Winter Perpetual. All require high culture and close pruning.

Of *Bourbons* worthy of mention—Armosa, pink; Baron Gonella, deep rose; Queen of the Bourbons, fawn-coloured salmon and sweet, especially late in the season; Sir Joseph Paxton, rose shaded crimson, are all good and free-flowering. They require a sheltered situation, liberal treatment, and close pruning. Louise Margottin, pale rose or blush, is one of the most hardy.

China Roses.—These make good beds, especially Aubert, red; Ducher, white; Fabvier, crimson; Cramoisie Supérieure, deep crimson; Louis Philippe, crimson; and Mrs. Bosanquet, flesh. They are best upon their own roots, and if well mulched will come away strongly from the base if the shoots above ground

are injured by frost. Few Roses are finer in the bud than the old Blush or common China, a bed of which is worth a place in every garden.

Tea-scented Roses.—These are unfortunately tender, but if grown as dwarfs and mulched in winter, some dry litter being placed over the shoots in severe weather, will succeed in sheltered situations; that good old Rose Gloire de Dijon is however, very hardy. They require a good rich soil, light rather than heavy, and moderate pruning. Abricoté, Anna Olivier, Madame Caroline Kuster, Madame de St. Joseph, Madame Joseph Halphen, Mlle. Thérèse, Monsieur Henry Bennet, and Paul Plantier are free-flowering. Madame François Jamin, Madame Docteur Jutte, Louise de Savoie, and Madame Chaveret have great fragrance, as have Madame Schultz and Triomphe de Rennes in the Noisettes, Rêve d'Or being the hardest of that family.

I would mention few autumnals which are pretty in the bud. Niphetos (Noisette) Safrano, Sombreuil, and Perle des Jardins. In Tea-scented or Noisettes Gloire de Rosamène (Bourbon), Perpetual White Moss, Marie Boissée, Madame Freeman, and Marquise de Ligneris (Hybrid Perpetuale).

In *Summer Roses* (though old associations may keep them alive their day is past) only a few will have note—viz., Provence (Cabbage), desirable for its fragrance; Crested for its beautiful buds, De Meaux for its earliness, Spong for its smallness and usefulness, and Unique white. Good treatment is required and close pruning.

Moss Roses are indispensable if only for buds, Céline being superb. The common Moss is very beautiful, Lanei and Marie de Blois being very mossy, and White Bath. Close pruning and very liberal treatment is needed to bring them to perfection.

Of Hybrid Chinas Blairi No. 2, and Hybrid Bourbons Coupe d'Hébé and Paul Ricaut are the best.

I have only to add of Austrian Briars Harrisoni, which requires to have the weak shoots thinned out, pruning those left about one-third of their length, keeping the soil liberally manured. All the Roses named are valuable for garden decoration and for affording "bushels of flowers" for cutting, many of them also affording "exhibition blooms."—G. ABBEY.

THE HARDY FRUIT CROP IN NORTH WILTS.

ONE almost feels inclined to put the above in the form of a question, thus: "What crop of hardy fruits is there in North Wilts?" and add as answer, "There is not any," in imitation of the question and answer, "What are the manners of the inhabitants of such an island?" "They have not any." In truth the answer would be literally correct as to Pears. On twelve trees I have counted only two Pears. Ten had not even one. Plums (standard Orleans), not one; Damson trees, not one; Coe's Golden Drop, just a few; Bullaces, none; wall Plums, six on three trees, the six being Coe's Golden Drop again. Apples with me an utter failure, the only tree giving anything like a crop being a Hawthornden half-standard; pyramids a crop only, and that a poor one, on one tree, and that a Golden Pippin. I visited a grand walled garden recently, grand in results rather than show, and which I have visited regularly for upwards of twenty years, and always found a great abundance of fruit. This garden is long and narrow, and by its walls and narrowness protected from much wind; and the frost too being what the gardeners here call "broke by the walls." The whole of one side I found cropless, whether the trees were wall, pyramid, or standard. The other side there is a very little. Apples fair, but the old Hawthornden stands out in grand singularity by producing an abundant crop. Pears there were next to none; sometimes on one branch, possibly sheltered by another tree, there would be a few. As to orchards, the scarcity of Apples is considerable, not that, like Pears, there is no crop at all. The orchard which I have seen being at this time most prolific is one which happens to have a belt of forest trees around it, consequently its trees are sheltered from the frost and blighting winds by the larger trees. There are exceptions to the scarcity: thus, Strawberries are most abundant, Currants of all kinds are plentiful, Walnut trees are in some cases bent earthwards with the weight of the "nuts."

I hear of bad news as to fruit in and near Bath. My readers will remember that it is a district favoured for fruit trees, and fruit on them. Pleasantly writes, or, alas! wrote, Charles Kingsley of this place and neighbourhood as follows:—"Now here we are at Bath station, and here are the handsome fruit women" (not so handsome now as when Kingsley wrote—Roses

still, but overblown) "waiting for you to buy; and oh! what Strawberries and Cherries! Yes, all this valley is very rich, and very sheltered too, and very warm, for the soft southwestern air sweeps up it from the Bristol Channel, so the slopes are covered with fruit orchards, as you will see as you get out of the station." Very pretty description this, but I am told that as to Pears one of the greatest cultivators of pyramids near Bath has literally none at all.

So that this fruit district, and I am only about ten miles from Bath, has utterly failed as to Pear crop this season; still my belief is that all is carried on in a system of compensation. As the farmer, who was condoled with on the death of his mother-in-law, replied, "Ah! poor old lady; very sad, but then I have got in my hay uncommonly well." So I say the fruit will be short this year—nay is; but what a capital year for growth it will be! What wood is being made on many a tree that was nearly killed with bearing! Yes, a growing year this year; a fruiting year next, I trust.—WILTSHIRE RECTOR.

MULCH.

MATERIAL applied to the surface of the ground around trees as a sort of coating is termed mulch. Mulching is resorted to for various purposes. 1, To retain moisture. This is one of the prime uses of all mulching and always to be considered. 2, To shade the ground during summer, so as to prevent excessive heating by the sunshine. It is said that heating the roots of trees above 70° is injurious, a statement we fully credit. Where the sun shines directly on clean dark-coloured soil it is often heated to a much higher degree, and that to the depth of several inches in all probability. With the thermometer at 95° in the shade we found it to rise to 120° very quickly in the sunshine, a heat altogether incompatible with healthful growth of a tree in this climate, or proper retention of moisture. 3, To retain the tilth of the soil, to prevent baking and hardening of the surface. A hard surface, a compact soil, without porosity or aëration, is not congenial to plant growth. That mulching prevents hardening of the surface is well known. 4, To render the soil fertile and to retain fertility. This arises from the decomposition of the material used, from the resulting porosity and prevention of evaporation. 5, To prevent extreme freezing of the ground, and to protect against sudden freezing and thawing. Anything to protect from extremes or sudden changes of temperature we consider beneficial, but more particularly the extremes of cold. 6, To retain frost around the roots to prevent too early a start in the spring. Many mulch with this object in view, but our observation and experience are that it will make no practical difference. When warm weather comes the buds will start in spite of mulching, even though the ground be frozen below. The idea that sap flows with warm weather during winter in an Apple tree is erroneous. Fruit trees are not like Maple trees in this respect. The sap of fruit trees does not circulate till spring comes. During winter, when thawed, there is a resupplying of the moisture that has been dried out during preceding freezing, dry weather—something we deem quite essential to the successful wintering of fruit trees.

Concerning the time of applying mulch practice differs. Regard must be had to circumstances and what effect is desired. 1, During winter and autumn after growth is over. This of course would be preparation for the next season. Its application at this time will give different effects, and like that of any other time may have a different relation to different farmwork, &c. 2, In the spring when growth begins. Applied at this time it would have an effect not generally desirable in most fruits—viz., retaining excess of moisture and frost too long in the ground. 3, During the growing season. Suppose the surface of the ground around the Apple tree to be given clean culture during May and first part of June, allowing the sunshine to warm the soil and start the tree into vigorous growth. About the middle of June the weather becomes quite warm and drought often sets in. This we deem the most favourable of all times for applying mulch, as it will protect against the extremes of summer heat and drought, and will not have been applied so soon as to prevent the benefits of spring sunshine.

Concerning material for mulching, practice also differs. 1, Tree leaves, Nature's mulching, probably are superior to any other, but these are not always attainable. 2, Animal manure, with more or less of barnyard litter, &c. The application of animal manures to fruit trees has always been more or less a mooted question. Our observation and experience in

this climate are that it is very injurious, and sooner or later will result in the total loss of the trees to which it is applied. 3, Earth, such as muck, loam, &c. This is often an important modifier, and useful over coarse light litter to prevent its being scattered by the winds. 4, Vegetable manure in the form of half-rotten straw, fresh-cut weeds, Clover, &c. Doubtless the most practical and appropriate of any material. 5, Wood-chips, sawdust, tan bark, &c. If you want to have your trees infested with borers, &c., use old chips and you will not wait long. Our observation and experience are adverse to the use of chips on that account, and because they seem to mould and mildew the soil below. Concerning tan bark we have no experience, but think none of these on decaying would give such congenial fertility as vegetable manures. 6, Mineral fertilisers, such as lime, ashes, &c.; not so much as a mulching proper, however, as a sort of modifier and accompaniment of the foregoing. Lime is especially useful in fruitage, and for assisting in giving health and ripening-up each summer's growth. Ashes act more like animal manures in having a stimulating effect. When mulching is applied, care should be taken to protect against vermin, both insects and rodents, for many such may harbour in the material used. To protect against mice, remove the mulch close to the trunk of the tree, and bank with clean earth a foot high.—A. L. HATCH (in *Transactions Wis. Horticultural Society*).

THE AQUARIUM ROSE SHOW.

THERE is something very sad to us rosarians about the last Rose show of the season. Though we are in the height of our short English summer, though the Teas are still in full bloom, and in the north of England at least the Hybrid Perpetuals have still to blossom, yet to know that another twelve months must elapse before we shall exhibit our pets again is, to say the least, by no means an exhilarating prospect. So it is with mixed feelings of sadness and delight that I sit down to write a few lines about the Aquarium Rose Show—sadness caused by the above reflection, and delight inspired by the vivid memory of the beauties exhibited that day.

It was indeed the last show, but certainly it was not the least. Perhaps in numbers the Exhibition might be called a small one, but if small it was like a Duke of Wellington, good. There was no class for seventy-two or forty-eight trebles. The Aquarium people were both generous and merciful. They, no doubt rightly, considered that the 18th of July was a late fixture for the great nurserymen, and that seventy-two would be a difficult number for any to stage well, and so they made forty-eight singles the highest class and reduced the trebles to twenty-four; but they by no means reduced to any extent the prizes, and offered nearly as much (within £1 indeed) money for forty-eight singles and twenty-four trebles as other exhibitions offer for the higher numbers. The same generosity was extended to the amateurs, who, instead of being asked to stage forty-eight and twenty-four trebles, were let off easily with twenty-four singles and twelve trebles. The consequence was that the stands throughout the Show were very good and the exhibitors much pleased, while the Judges' duties were proportionately lessened. The arrangements also were very good: there was no hitch of any kind, and a very pleasant day was spent. The list of the prizewinners was given last week, so I need only make some cursory remarks on Roses and exhibitors such as appear, according to my judgment, to be most worthy of recording.

As I had prophesied, the fixture suited Mr. Cranston better than any other London show, and he showed his grand form by winning both the leading classes and by almost carrying off the class for twenty-four singles; but even this Show was a little too early for him, and I can well believe that if the Agricultural Hall Company were to give a Rose show—(why don't they?)—during the next fortnight Mr. Cranston would show in much finer form than he did on Wednesday. His blooms were very large and fine, and some of the novelties in the stands exceedingly good. Abel Carrière again came to the front, also La Rosière and Marguerite Brasseur. Too much cannot be said in favour of these Roses. They are grand additions to the dark class. Abel Carrière has not only colour very like Pierre Notting or Jean Cherpin, but also grand form. If you were to take a perfect bloom of Centifolia Rosea as shown by Mr. George Paul, and by some magical means change its colour to a dark velvety purple, you would have a good imitation of Abel Carrière. La Rosière is an improved (or will, I think, prove so) Prince Camille de Rohan, and Marguerite Brasseur is a second edition of Charles Lefebvre. Perhaps it has not quite the substance of the latter, but then it is a new Rose and there cannot be a large stock of it, and it would indeed be giving a high character to any Rose to say that it equalled Charles Lefebvre, the grandest of Roses; still in time it may, and now with the above exception I don't see that, as shown this year by Messrs. Corp and Cranston, it is

far behind. Mr. Cant was a good second, but his Roses gave evidence that his blooming season was, alas! near the end. This gentleman and also Mr. Paul travelled all night from Scotland in order to be present, leaving their men to cut their blooms, and turning up just in time to put the finishing touches to their stands and, to the great delight of the leading amateurs, to judge.

There were six stands of twenty-four trebles, all good and worthy of prizes; in fact, I do not remember ever judging such good trebles. When such a grower as Mr. George Paul is left out in the cold, as he was in this class, the general excellence of the stands may be imagined. Mr. Cranston was easy first, but Mr. Turner and Mr. Cant ran so close together that it was a most difficult matter to decide who was the better. Mr. Turner would, however, have more easily won second honours if he had not put in a very coarse treble of Souvenir de Malmaison and also a bad one of Sir Garnet Wolseley. I hope that good grower will forgive me for presuming to give a hint on such a matter, but over and over again have I seen his splendid stands spoilt by one or two trebles of coarse, large, overblown blooms. Several times I have noticed Paul Neron in his back row, and Antoine Mouton, and (as to-day), Souvenir de Malmaison, and the effect upon the mind of a judge who puts form before size is most deleterious to the exhibitor. Mr. Turner had some splendid trebles, particularly Duke of Edinburgh and Niphetos. Mr. Cant's were smaller but fresher and cleaner, but I have the great pleasure of knowing that all our awards satisfied that "good Judge and good fellow."

In the class for twenty-four and twelve Mr. Corp of Exeter well maintained his Clifton reputation. I cannot too highly praise his stands, they were beautiful. To my mind Mr. Corp more nearly approaches Mr. Baker (Hercules), in the general excellence of his stands than any nurseryman I know. Colour and freshness and good form are the prevailing features of the stands of both, and in many instances the same blooms are to be found which are pre-eminently good. Mr. Corp also had splendid Teas, and I cannot help thinking that in a few years he will attain a very high position. May I take this opportunity of informing your readers that this grower has an immense quantity of Teas on the seedling Briar for sale, and I am informed that they are very good plants? As I for one know the great difficulty of procuring Teas, I think it only kind to mention this.

The amateurs were in great force, and for the most part showed very fairly. Mr. Jovitt was in grand form again, and easily won the first prize for twenty-four. His great rival Hercules was first for twelve trebles, and Mr. Pochin secured first honours in eighteen. All these showed very well indeed. I was surprised to see how good Mr. Baker was after the storms we have had in the west, but be the weather what it may this grand grower always shows well.

The class for twelve Teas (open), was more hotly contested than any other, and the exhibits were very fine. When such great nurserymen as Mr. George Paul and Mr. Keynes were not placed the Teas must have been indeed excellent. Mr. Cant won the first prize and Mr. Corp the second. Modesty forbids my naming the third.

I do not presume to say a word as to the beauty of the Carnations, for that is no affair of mine, but the Show appeared to me wonderful, and a better alliance could not have been made than Roses with these lovely florist's flowers. But before I conclude I must bear witness to the hospitality and kindness of the Directors and General Manager. It is many years since I have had so pleasant a luncheon, or sat down at a more hospitable board, or received a kinder and more genial welcome than I did at the Aquarium. Mr. Wybrow Robertson fulfilled the duties of Chairman in a most excellent manner, and not one of the least pleasing incidents of this portion of the day's proceedings was his assurance that this was by no means the last of the flower shows to be held in the Aquarium, for in future years a Rose and Carnation Show would form part of the annual attractions. This good news will, I know, be welcomed by all your readers, and it may, perhaps, solace a few who, like myself, are sorrowing over the end of the Rose shows. To us, indeed, the summer days are over—the summer, that is, of our hopes and fears and sweet uncertainties, the heyday of our brief festal season, when the enjoyment of one brief month at the outside rewards us for the labour of a year; but still there remains to us the hope that for many another season we may be spared to enjoy and record a feast of such good things as was on Wednesday last the happy lot of your faithful—WYLD SAVAGE.

PETROLEUM VERSUS MICE.

I THINK your correspondent "J. H. Y." will find petroleum superior to carbolic acid in preventing mice from eating seeds, &c. I place my Peas, Beans, and other seeds likely to be attacked by mice in a flower pot (corked-up, of course), or any other vessel, with just sufficient petroleum that when stirred

round with a stick moistens the whole. I have never found mice to touch them after this. Petroleum besides is a fertiliser, carbolic acid is not, and likely to destroy the vital power of some delicate seed.—A. DECK, *Cambridge*.

EXPERIMENTS ON THE FLOW OF THE SAP.

[Read at the Scientific Committee of the Royal Horticultural Society.]

At the beginning of this session I drew the attention of this Committee to the course of the sap, being of opinion that recent researches rendered some modification in our views necessary on that subject.

The proposition that I submitted to the Committee was, pure and simple, that there was no such thing as descent of the sap at all, but that its course was always upwards. I found the Committee quite in accord with me, so far as regarded anything like circulation. I think most of them, if not all, repudiated any belief in the whole theory of the ascent of the sap by the fibro-vascular bundles of the wood and its descent by the cellular layers of the inner bark; but I found the majority still imbued by the theories of Sachs, and holding with him, and on his grounds, that descent by some means was absolutely necessary in respect that assimilation could only take place in the light, and consequently that the whole of that function must be performed in the leaf, whence the assimilated matter there produced must be transported in some way or other to the other parts of the plant in which it is found; and as these are lower down, and some of them even underground, as in the case of tubers, it followed that there must be a descent in some way or other, and the prevailing opinion seemed to be, as was, I think, first suggested by Mr. Herbert Spencer, that this took place by a slow swaying or wandering motion, by means of endosmose and exosmose, through the walls of the cells, which imperceptibly and independent of the current of the sap mixed the whole up together, or carried the different ingredients to where they were wanted.

Since I last spoke on the subject I have endeavoured to see if actual experiment would throw any light upon it.

I made experiments with the Vine, the Fig, the Horse Chestnut, and the Hyacinth, but as they all, so far as they went, tended in the same direction, I shall speak principally from the Vine, which was much more manageable and more readily took up my infusions than any of the others. Thanks to the experiments of Professor M'Nab and Professor Church, I knew of the virtues of lithia as an easily absorbed agent, whose presence could be detected anywhere by the spectroscope in however small a quantity it might be present, and I had the advantage of Professor Church's own kind assistance in determining for me whether it was present or not. As lithia, however, is colourless, I added to my infusions enough of litmus to colour them deeply, and I am bound to record as the result of my own experience that the lithia told me nothing that the litmus did not equally well. The combination of both, no doubt, adds to the confidence with which I can trust to my experiments, but the litmus had one great advantage over the lithia—that it might be easily handled, and dropped or spilt, without interfering with the experiment; whereas with lithia we have constantly to be on our guard against any careless dispersal of it—as, for instance, by allowing a drop to spill on the bark, or by using a knife that had been employed in cutting a portion of a branch that has been lithiated to cut one that has not. The form and proportion in which I used the lithia were five grains of citrate of lithia to each fluid ounce. To this I added a little glycerine, with the view of equalising the specific gravity of the mixture with that of the sap, and then as much as I found necessary of small lumps of litmus.

I then passed gutta-percha funnels over the shoots to be experimented on, and secured them as cups, with the shoots growing up the middle, by means of cork and tallow. I tried waterproof cloth, but it did not hold in, but the gutta-percha funnels did perfectly. My experiments were made in April and May, when the leaves were beginning to open. I put one cup on the stem of the Vine. It held perfectly, and no escape of the liquid took place. After the cup was properly luted to the stem with tallow I cut a nick in the bark a little above the fitting, and then filled the cup with the lithiated litmus mixture, so as to cover the nick. I then allowed it to remain on for six weeks, constantly renewing the mixture in the cup as it disappeared.

After the expiration of six weeks I took up the plant and examined it: and here let me say that the Committee and I are in accord as to what I should have found had Sachs' theory been well founded. I imagine that upon every principle I should, on the ordinary principles of gravitation, have found the severed vessels below the nick, and on the same side as it, filled with the infusion in consequence of its descent. So far as regarded that part of the plant it was no longer a closed tube, and there could be no ascent, but being, as it were, merely an open tube, whatever was poured into it should simply find its way to the bottom. And so in fact it did—the infusion below the nick descended to the very fibrils of the roots. In like manner the part above

the nick being a closed tube—closed by the cup at the bottom and by the leaves acting as a sucker at the top—we should expect that the infusion would ascend; and so it did, nearly as completely as it descended below the nick. But how as regards the parts that were on the opposite side from the nick? According to Sachs' theory, whether you call it the result of metastasis or of endosmose and exosmose, the infusion should have been found extravasated and unfiltered through that side, both above the nick and up the ascending branches, and in fact everywhere a little; but in point of fact there was not the slightest extravasation nor a solitary particle of lithia or litmus in any of these places. The depth of the nick was the measure of the extent of the penetration of the infusion, and it was as sharply defined as a line could be; and this is just what I said should be the case.

I said that the rapidity of the current would prevent any intermingling of ingredients by endosmose or exosmose. At night there can be no ascending current, for the force that produces it, the sun, is withdrawn, but the tube is full and in equilibrium.

To keep strictly within my experiences I must explain that this is the result of all my experiments as regards litmus, and of all but that on the Vine as regards lithia. The experiment as to lithia in the uncut side of the Vine could not be tested, because I sent Professor Church the portions of the plant to be tested, all cut up transversely, asking him to cut certain specified ones longitudinally, and then test them separately; but he explained that that would be a delusive test after the portions had travelled from London to Cirencester, for the lithia would have had time to pass by endosmose and exosmose from one side to the other, after the plant was cut in pieces: which of course it would, for there was no longer any current to prevent its infiltration; but the distribution of the litmus when the plant was newly cut showed clearly enough what the result of a search for lithia would have been at that time.

To my mind this is conclusive on the question. Sachs must be wrong, and we must now re-examine his arguments and see where the flaw lies. His position is thus stated in his "*Physiologie Vegetale*:"—"The absolute necessity (says he) of the intervention of light for assimilation in plants with chlorophyll is proved directly by their mode of development in darkness. When we cause seeds to germinate in such conditions, roots, internodes, and leaves are developed generally in proportion to the mass of the seed. When all the provision of elaborated principles contained in it are exhausted the development ceases. If up to that period the seed is allowed to germinate in the light and it is then removed into darkness the result is the same—the young leaves, although green, assimilate nothing; but if they are allowed to remain long enough in the light to have assimilated a little, there will be developed in darkness leaves and internodes until that new provision be exhausted also."

But there is one important fact that Sachs omits to keep in view here. If the plant in darkness assimilates nothing, neither does it take any food to assimilate. It is well known that plants do not feed in the dark, and nothing is easier than to prove it by experiment. Let anyone with a Hyacinth growing in water in a glass mark, by a thread or narrow strip of paper glued to the glass, the height at which the water stands at night, he will find it the same height to-morrow morning, but very different to-morrow night. But the fact is not disputed.

Now on what ground are we to hold that the reason why the plant does not assimilate is the absence of light in preference to the absence of food? Either will account for it, and one will suit Sachs' theory, but the other not. No doubt the food is not taken up because of the absence of light, but it may very well be that if the plant were placed in light so that it could take food generally, and some portions of it were secluded in darkness, we should find that assimilation went on as well in those in the dark as in those exposed to light; and this, in fact, is just what nature does with tubers. They are in darkness while the plant is in light, and they contain assimilated matter in as great abundance as any Apple in the blaze of sunshine. Now I object to a question of that kind, or, indeed, any other kind, being answered by giving the thing to be proved as part of the proof; but this is what Sachs does. He has to prove that assimilation cannot take place except in light. I offer an instance of its apparently taking place in darkness, and the reply is that it cannot be, because assimilation cannot take place in darkness. During the day the light and heat of the sun draw up the sap to all the terminal parts of the plants, such as the axial extremities of the branches, the buds, the leaves, the tubers (which are only subterranean buds), where it is partly evaporated and partly assimilated, and as it is used up the roots absorb a corresponding flow to supply the consumption; but at night, when the motive power is withdrawn, the upward flow of sap ceases, the roots become inactive and cease to feed; at the same time there is nothing to hinder growth going on, it may pile cell upon cell whether the machine is working or not, and it does so, but assimilation ceases. Sachs has confounded an accessory with a principle, and mistaken an effect for a cause.

Allow me, however, further to cite a well-known fact in favour of my views, which it reflects no credit upon us not to have

sooner so interpreted. I allude to what we see in the case of grafts. We know that the stock has certain properties differing from those of the scion. We all know that the properties of the stock affect the scion. They are carried up into its system, but those of the scion are not carried down into the stock. If the theory of descent and wandering and mixing of the sap were true the qualities of the scion ought to descend just as much as those of the stock ascend, but they do not. But some one may say, "Oh, but you are wrong; there are cases in which the influence of the scion has made itself felt on the stock." How many? I ask. Out of the myriads of millions of grafts that are made every year we hear perhaps once in a decade of some single plant where there is a doubtful appearance of a scion having had some influence on a stock, or rather, on a shoot from one. I am willing to take it as possible that such a thing may have, and that such a thing has occurred, but I add that it is still capable of explanation in accordance with my interpretation of the flow of the sap. It will be observed that such cases have never been recorded until after the lapse of a winter after the grafting, and, in fact, it is nearly impossible that they could. Now although I maintain that there is no descent of the sap, I never did (and could not) deny that there is a period (winter) when it no longer flows at all. The liquid part of the sap is evaporated, the more solid part is dried up, deposited or crystallised, or what is called "stored up" for next year. I imagine that this takes place pretty much simultaneously all through the plant, so that there is little sinking of the column of sap in the vessels. But it is possible that under conditions when there is an unusually large supply of sap in the vessels at the approach of winter, or in plants whose vessels are favourably constructed for it, there may be something like a disturbance of equilibrium, which will allow a portion of the sap belonging to the scion to ebb, as it were, below the graft, and, being there stored up and redissolved and carried up next year, may give rise to the doubtful phenomenon of which I speak; but I take my stand not upon exceptions but on the broad basis of an all but universal experience.—ANDREW MURRAY.

(To be continued.)

LEEK ROSE SOCIETY'S SHOW.

"THE rosy town of Staffordshire," as "WYLD SAVAGE" last year termed the "metropolis of the moorlands," had its carnival of Roses on the 17th inst., and it bore bravely comparison with any of its five previous celebrations. Of course, in magnitude it showed a falling-off when memory brought to view the glorious stand of seventy-two Messrs. Cranston & Mayos won so handsomely with last year, but remembering that the exhibitors were confined to the immediate locality, and that wind and rain had done their best to despoil the plants of their blooms, the display was both large and of excellent quality.

Of thirty-sixes the exhibits numbered three, and Messrs. Nixon, Eaton, and Clay (gardener to Mr. W. S. Brough), were awarded the prizes in the order named, their pans containing excellent blooms of Madame Lacharme, Annie Wood, Perle des Jardins, Louis Van Houtte, Maurice Bernardin, and La France. The twenty-four were a good lot all round, the prizes going to Messrs. S. Bratt, S. Eyre, and C. Roberts (gardener to Mr. Glover, Highfield). Twelves were strong, and the contests for sizes and pans of light and dark were well contested, the chief prizewinners being Messrs. Sheldon, Godwin, Cartwright, Newall, and J. Brough. Amongst so many good flowers the search for the premier bloom was like the proverbial hunt for a needle in a haystack, but ultimately a bloom of Charles Lefebvre was fixed upon as worthy of the prize.

Stove and greenhouse plants were staged on sloping banks each side the Rose tables, and added much to the general effect. Pansies were shown in great variety, Messrs. M. H. Miller and C. Eaton taking the chief honours.

The experiment of a promenade concert was tried and proved very successful, the attendance exceeding that of any previous year. The Judges were Messrs. Herbert, Sefton Park, Liverpool; Jones, Chester; Leicester, Macclesfield; and Sherratt, Knypersley.

DOUBLE YELLOW PROVENCE ROSE.

THERE is, and has been for several years, a plant of the above Rose growing on a north wall at Intwood Hall near here. The blooms are freely produced, they are of medium size, very full, and of exquisite cup-shape; the colour is rich deep yellow, the petals being of the same shade throughout. During its blooming season, which is short, no yellow Rose exceeds it in beauty. It grows freely either on the Briar or Manetti stock, but especially so on the latter.—J. E. EWING, Eaton, Norwich.

THE BEST SUMMER LETTUCES.—Paris Green is the best Cos Lettuce I have ever grown for summer use. It grows rapidly

to an immense size, folds its leaves in to blanch the centre, and the flavour is exquisite. Amongst the Cabbage varieties Tom Thumb forms a small useful compact head, and it is slower than any other in running to seed in hot weather.—M. M.

NEW BOOK.

A Book about Roses, How to Grow and Show Them. By S. REYNOLDS HOLE, Canon of Lincoln. W. Blackwood and Sons. Sixth Edition.

It is no misrepresentation on the title page to say that this edition is "revised and enlarged." The first edition had 277 pages, and this has 321 pages, besides an excellent coloured portrait of the author's namesake Rose, "Reynolds Hole." The volume contains directions for cultivating and exhibiting all the varieties, and is written in an attractive readable style not always characteristic of gardening literature. We have marked many pages for extraction, but must select the following, because it answers a correspondent who asks for "the names of Roses suitable for a garden near a large town."

"For Walls.—Gloire de Dijon, La Belle Lyonnaise, the Ayrshire, Sempervirens, white and yellow Banksian, Boursalt Roses—where a large space is to be covered, the Ayrshire and Sempervirens.

"Of Summer Roses.—The Common Moss, the Common Provence or Cabbage, Boule de Nanteuil and Kean, Gallicas; Brennus and Blairii 2, Hybrid Chinas; Charles Lawson, Coupe d'Hébé, and Paul Perras, Hybrid Bourbons.

"Of Autumnal Roses.—"Auguste Mie, Baronne Prevost, Charles Lefebvre, Comte de Nanteuil, Edouard Morren, Général Jacqueminot, Jules Margottin, La Ville de St. Denis, Leopold I., Madame Boll, Madame Boutin, Madame Clemence Joigneaux, Madame Victor Verdier, Maréchal Vaillant, Marie Baumann, Madame Charles Wood, Paul Nerot, Pierre Notting, Sénateur Vaisse, Hybrid Perpetuals; Armosa, Queen, and Souvenir de la Malmaison, Bourbons; Aimée Vibert and Grandiflora, Noisettes; Mrs. Bosanquet, China; and Climbing Devonensis, Gloire de Dijon, Madame Berard, and Souvenir d'un Ami, Teas."

NOTES AND GLEANINGS.

WE are informed that preparations for the GREAT EXHIBITION to be held in Carlisle on September 6th, 7th, and 8th are progressing satisfactorily, and that a really "great" display is confidently anticipated. Prizes amounting to upwards of £1200 will be competed for, and the schedule (which is now ready) is so arranged as to encourage the best cultivators to enter the lists. Entries close on the 30th of August. With a large and practical executive committee under the chairmanship of Mr. Baxter Smith, with Mr. William Thomson as manager of the show, and other able officials, the preparations cannot but be otherwise than well considered and well carried out.

— At the meeting of the Council of the Royal Botanic Society held on July 14th, a special GOLD MEDAL was awarded to Messrs. J. Carter & Co. of Holborn, &c., for the novel and extensive collection of fine-foliaged and flowering annual and other plants grown in pots from seed, which had been exhibited in the gardens of the Society during the month of June.

— A CORRESPONDENT writes as follows on the FRUIT CROP NEAR DERBY:—"Peaches, Nectarines, and Plums are a failure, though the trees were full of bloom and well protected with Parham's coping and horticultural shading. Apricots very few, though plenty of bloom and protected. Pears a general failure, not superabundant blossom. Apples, many trees failed, but some pyramids full of fruit. Gooseberries and Currants a fair crop. Cherries all dropped off except Morellos."

— "M. J. B." writing to us on BLACK PRINCE STRAWBERRY states:—"We grow a good many varieties of Strawberries, including Keens' Seedling, Oscar, Sir Charles Napier, &c., but not one of them has proved so productive as Black Prince. Its fruit is comparatively small, but is high in colour and is excellent for preserving.

— BESSIE JOHNSON is acknowledged to be one of the sweetest of Roses, and is an excellent variety for growing either in pots or in the garden. A climbing Bessie Johnson is, we are informed, established in the nurseries of Messrs. G. Paul and Son, Cheshunt, and which it is expected will prove an acquisition. We have seen blooms of a new bright crimson climbing Rose named Red Dragon, which has been raised at Waltham Cross by Messrs. Wm. Paul & Son. If this Rose

proves to be free in growth and floriferous it will produce a fine effect on walls and pillars.

— At no time of the year, writes a correspondent, do *Roses* strike more readily from cuttings than during the months of July and August. If wood that is partially ripened is made into cuttings—shoots that have bloomed—and inserted in a partially shaded border, nearly all of them will strike. The cuttings should be divested of all but the two upper pairs of leaves, and be inserted deeply and firmly. Water should be given and shade supplied in order to keep the foliage fresh and healthy, and roots will form the more quickly.

— MESSRS. BRADLEY & SONS of the Southwell Nurseries, Notts, have sent us specimens of LABELS which they have prepared for sale. Those made of horn are transparent and unique, and are far superior in appearance to those made of wood.

— We regret to learn that the *POTATO DISEASE* has shown itself at Chiswick, not merely that form of it known as the "curl," but the murrain, which has frequently proved so disastrous of late years. Should showery weather continue and a high temperature also prevail, the *Potato* crops cannot be otherwise than jeopardised, and it is advisable that crops in gardens which are approaching maturity should be taken up and the tubers be thinly stored, and much loss may be thereby averted; or if the haulm is pulled up, not cut off, when an outbreak of the murrain is threatened, yet before it occurs, the tubers if left in the ground will be safe.

— MR. H. S. JAMES, The Gardens, Westfield House, near Gloucester, informs us that he has a large plant of *PHLODENDRON PERTUSUM* which flowered in June, 1876, of which he has gathered three ripe fruit, and will soon gather the fourth. The plant is also in flower again, having had one flower open and another just expanding.

— AN American writer and admirer of *SUCCULENT PLANTS*, after alluding to the unique collections at Kew Gardens and at Hammersmith (Mr. Peacock's), states that "a well-filled succulent house would not be costly to keep or care for. Neither would such an astounding plant *mélange* have any resemblance to an 'old curiosity shop' crammed with inert trash and musty rubbish. Where there is life there are hopes of happiness present and to come. Although they are the oddest of all odd things, and the most 'wonderful wonders' in the vegetable kingdom, they are as intensely interesting as extremely curious. To us it really seems as if the Author of all good had some strange device in view when fashioning their fantastic forms, many of which are ultra-grotesque, while others are unrivalled in beauty. I have often noticed, both with amateurs and professionals, a strong desire to linger around them longer than with many other things more gaudy and gay, bloomed they never so grandly." The plants referred to are real amateur's plants, requiring neither close attention nor skilled cultivation, and a large and varied collection of them can be accommodated in a very small space.

— It is noteworthy how well even some of the most common of *HARDY PLANTS* are turned to account by the London florists. One of the most common and one of the most beautiful for the decoration of window boxes and window sills is the *Creeping Jenny*, *Moneywort*, or *Loosestrife*—*Lysimachia Nummularia*. Hundreds of this common ditch-side plant are grown in 5-inch pots, and cheer and brighten the dark courts of London. When the pots are placed in saucers of water and the plants are grown in the full sun their elegant pendulous growths become laden with golden flowers and produce an enlivening effect. The *Creeping Jenny* is a town plant of the first order of merit, and is capable of being turned to account in country districts as well as in towns. Neither is it wholly a plebeian plant, for Mr. Wills uses it largely and effectively for forming bright green fringes to the artistic groups of exotic plants with which he adorns the saloons of the aristocracy and the halls of public companies at their festivals. We would say a good word therefore for this common homely plant, because it is capable of cheering many an otherwise cheerless place, and growing and flowering where plants are rarely seen looking happy and healthy.

— It is reported, on good authority, that those who suffer from *RHEUMATISM* are cured in a few days by eating *ASPARAGUS*, while even chronic cases are much relieved, especially if they avoid all acids, whether in food or drink. The *Jerusalem Artichoke* is reported to have a similar effect in relieving rheumatism. Most plants which grow naturally near

the sea-coast contain more or less iodine, and in all rheumatic complaints iodine has long been a favourite remedy. Some physicians also recommend the free use of the *Tomato*. It is said to act very favourably upon the liver (in place of calomel), and its efficiency in relieving dyspepsia is remarkable. Raw or cooked it is considered to be equally wholesome.

— THE first annual Show of the newly established NOTTINGHAM HORTICULTURAL SOCIETY, which was held on the 19th, 20th, and 21st in the grounds of the Arboretum was, we are informed, a very good and successful one. The premier prize of £10 in the plant classes was won by Mr. Gadd, Woolaton Hall. *Roses* were numerous and excellent. The prizes went as follows:—For twenty-four cut blooms (open), first, Rev. Canon Hole; second, Mr. Frettingham; third, Messrs. Cranston & Co., Hereford. Twelve cut *Roses* (open), first, Messrs. Cranston & Co.; second, H. Merryweather, Southwell; third, Rev. Canon Hole. Eighteen cut *Roses*, six varieties, three of each (open), first, H. Frettingham; second, Messrs. Cranston and Co.

— THE aquatic house in the gardens of the Royal Botanic Society, Regent's Park, is just now highly worthy of a visit. The *VICTORIA REGIA* is in splendid condition, and is flowering freely. The first flower opened on the 20th inst., and was a foot in diameter. Each flower lasts for two days. It opens towards evening pure white, continuing open throughout the night, closing the following morning and expanding again towards the evening, but this time of a pink colour. It ripens seeds freely—in fact, the huge plant, with eight leaves averaging 6 feet in diameter, which is now flowering, has been raised from a seed which was ripened in the house last year, the seed being about the size of a Sweet Pea. The growth made in such a short time from such a small beginning is quite marvellous. Other aquatics now flowering are *Nymphæas*—*cyanea*, blue; *devoniensis*, rose; and *dentata*, white; also *Nelumbium speciosum*, the Sacred Bean of India, which has leaves nearly 3 feet in diameter, and *Syncharis Humboldtii*. On the roof of the house *Aristolochia ornithocephala* has a profusion of its grotesque flowers, and *Allamandas nobilis* and *Wardleyana* are in extremely fine condition. The plants in this house, and indeed in the gardens generally, reflect much credit on Mr. Coomber, the Superintendent, by their health and cleanliness.

— MR. L. FITT, in alluding in "The Journal of Forestry" to the AGE AND SIZE of YEWs, observes that the Ankerwyke Yew was a tree of considerable size in 1215, at the signing of Magna Charta. At Fountains Abbey, Yorkshire, there is one reckoned at 1200 years of age; St. Pierre in 1772 saw one in Lower Normandy which was planted in 1066; near Warblington, Hants, is one 27 feet in circumference; Crowhurst, Surrey, has one 30 feet 6 inches; at Leeds is one 31 feet round; Inchbrakie, near Crieff, Perthshire, has the second largest Yew in Scotland, which during a season of peril sheltered the great Montrose in its dense branches on one occasion. Of all these, Fortingall, Glen Lyon, Perthshire, bears the bell. In 1772 it measured 57 feet in circumference. Considering the slow nature of its growth Pennant's tree at Fortingall must have been a wonderful sapling at the beginning of the Christian era! Evelyn saw the hills of Surrey clad with Yews. The Darley Yew, Derbyshire, is reported to be the largest in the world. Besides being a charm for driving away the devil, a doctrine inculcated by monkish superstition, the tree was venerated in the early ages.

— THE agricultural department of Cornell University has received a valuable present from Dr. P. M. Hexamar of Newcastle, N.Y., consisting of five hundred VARIETIES of *POTATOES*. This collection took a prize at the Centennial Exhibition last year, and is considered, says the *American Cultivator*, to be the largest and most complete in the world. The *Potatoes* are to be planted in the University garden.

— IN the newly-formed State Board of Agriculture for Pennsylvania Mr. THOMAS MEEHAN has been elected professor of botany, and Mr. Josiah Hoopes professor of horticulture. Mr. Meehan is the accomplished editor of the American "Gardeners' Monthly and Horticulturist," a most valuable publication, and which states that Mr. Hoopes has been one of the most vigorous Presidents of the State Pomological Society, which practically takes under its protection all the more solid branches of horticulture, and is well known in connection with valuable horticultural services.

— We are very glad to record the continued well-doing of the SOUTH AUSTRALIAN BOTANIC GARDEN at Adelaide under the

directorship of Dr. Schomburgk, and to cite the following from the report of last year. "The interchange of plants and seeds with kindred institutions and private parties has been on the increase. Most of the plants of our extensive collection have been obtained by exchange; and had I to purchase the annual increase of our collection £300 to £400 would scarcely suffice, while our expenditure for the purpose is not £150. The Garden dispatched last year nineteen Wardian cases, containing about 800 stove, greenhouse, and native plants, and 1500 packets of seeds, which arrived at their destination generally in good condition. The recipients have been botanic gardens, Kew, Natal, Mauritius, Java, Singapore, Cape of Good Hope, Port Elizabeth, New Caledonia, Queensland, New Zealand, Melbourne, Geelong, Sydney, Tasmania, and Vienna. Collections of native seeds have been sent to the principal botanic gardens of England, Germany, France, Russia, and East India. Collections of seeds of Grasses and fodder plants have again been forwarded to East India and the neighbouring colonies. Our collection has been enriched during the last year with 500 additional species and hybrids containing many valuable plants from England, Germany, Belgium, India, America, Africa, Java, Singapore, New Caledonia, and the surrounding colonies. The numerous contributions from the South Australian public indicate the continuous interest felt towards this establishment; and these have also materially increased the collection by rare and valuable plants received from many donors."

—THE American "Gardeners' Monthly," in referring approvingly to the visit of HER MAJESTY to the Summer Show at South Kensington, observes:—"We are apt to laugh at the idea that the smile or the frown of any one human being should make all the difference between success or failure in a horticultural or any other exposition; but we must not forget that there is something in the average human mind that longs for a leader, and it will be to the everlasting honour of Prince Albert that he set the good example of patronising horticulture. We have no social aristocratic classes here, but everybody acknowledges and worships the aristocracy of intelligence, and it does not take long for this to be acknowledged, and for the possessor to be in some sort made to know that he fills this elevated seat in public estimation. Horticulture in America is, just now especially, suffering from the want of leaders among those who worthily possess influence if they would only use it."

CUTTING ROSES FOR EXHIBITION.

OUR friend the Rev. Mr. Camm has asked me to give a reason for the unorthodox practice of cutting Roses in the sun, which I have recommended for many years. I am glad he has tried it for himself successfully, as he will, therefore, lend me a more patient ear.

I was first led to the practice by observing during a cold dry wind with no condensation of dew how very much some fine exhibition flowers which I had been anxiously watching were retarded and kept back on the trees. After making several experiments to satisfy my mind I was led to the conclusion that the safest plan and the best time to cut in very hot weather for travelling was at six o'clock in the morning and three in the afternoon. At six o'clock you may cut flowers with impunity for the next morning's staging, but they must be large, deep, full-grown, half-opened buds, which if left on the trees until ten o'clock would be, to use a common expression, "blazed out." Very double massive varieties may be cut in a more expanded state. Remove these to your boxes on the ground in a cool dry shed or even cellar, without sun or much light. Prop open your boxes about 6 inches, so much the better if a current of air can be admitted under the door from the north side. It is often well to hang a thick mat in the doorway within a foot of the ground, so as to admit only the coolest air from the surface. Go round again at three o'clock in the afternoon and do precisely the same as before. Cut only the large opening blooms, and you are quite safe for a night or morning journey. You must not cut the large expanded flowers in the morning, which appear fresh and beautiful with the dew on them, having their centre petals closed or partially folded up. These were "blazed out" the day before. The moment the dew is evaporated these grand flowers will quickly fade and disappoint you at the last minute. I attribute this to colour being an ammoniacal compound; ammonia having a great affinity for moisture the colour is thereby quickly discharged and fading takes place, the rapid action of

evaporation affecting even the light and white varieties. We often read descriptions of a brilliant French Rose edged with light. This is a case in point.

Cutting over the ends of your Rose stems when you rearrange your boxes in the morning helps to get more water into their tissues; keeping your green moss as dry as possible around them has a tendency to bring up the centres of your blooms, which is very desirable.—HENRY CURTIS, *Devon*.

WHOLE VERSUS CUT POTATOES FOR PLANTING.

A MONTH or two ago "A NORTHERN GARDENER" took occasion to say that my plan of planting Potatoes whole was not the best one. A crowd of stems and small tubers were to be the result. Nothing could be further from being correct than this. Our garden Potatoes will cover about an acre. Every one of the tubers were planted whole, and I have seldom seen a more promising lot of Potatoes. But this is not all. We have been lifting Potatoes out of doors for the last six or seven weeks. The sorts are Rivers' Early, Ashleaf Kidney, Gloucestershire Kidney, and King of the Earlies. A better crop no person need wish to see. From one root I lifted to-day twenty-five full-sized kidneys. There is a south border here on which early Potatoes have been grown for more than a dozen years. Formerly the sets were cut, this year they were planted whole; and while the crop in previous years was much below the average, it is better this season than it ever was. The cottagers about here to economise seed cut the Potatoes to every eye. When one fails there is a blank; and worse than this, this year the blight is extensive within a stone's throw of our own crops, and yet not one root of the latter is touched in the slightest. In this short distance there cannot be much difference in the soil nor atmosphere either, but remember there was in the sets. Now, as to the disease, and cut *versus* whole Potatoes, I think the whole tubers have the advantage. The late Mr. Paterson of Dundee said, and many think, that by cutting a little bit of the end of each tuber, or cutting them into pieces, the seed decayed quicker and did not rob the young tubers of their nourishment. I think differently. I know of nothing that will cause young Potatoes to become diseased quicker than having an old rotten one in their midst.

Potatoes when planted whole do not decay at all under the soil, and it is a simple matter to pick them out as the whole are lifted. If any of your readers do not remember my mode of choosing and dealing with seed Potatoes, as I stated in a bygone number, it is this:—Use all the large tubers; preserve all those about the size of a small hen's egg for seed, plant them whole, and give the very small tubers to the pigs. —A KITCHEN GARDENER.

[We consider your plan good, and you have proved that it is successful, but we think "A NORTHERN GARDENER" did not advise the cutting of kidney Potatoes.—EDS.]

LOBELIA EMPEROR WILLIAM.

THE flower is dark and distinct, with a well-formed white eye, and in habit is quite a little bush, answering admirably for carpet bedding. I found it did not grow exactly true from seed; still the variation was very small—not more than 10 per cent., but even at this rate it would greatly mar the effect in a piece of ribbon or carpet bedding. I at once came to the conclusion that if I let my chances for cuttings alone till the autumn there was every chance of the true and untrue cuttings getting mixed again, so in July I selected a few of the most compact plants, which I cut down near the surface of the ground. These threw up hundreds of fresh young cuttings, a batch of which I inserted in August. They grew well, each being capable of producing eight or ten plants in the spring. I mention this Lobelia because it is an excellent one, and because it is by cutting a few plants down at this period of the year that plenty of good cuttings are produced for securing a full stock of healthy plants. If the plants are not cut many of the dwarf free-flowering Lobelias produce but few healthy cuttings.—B. G., *Co. Down*.

DISEASED CUCUMBER ROOTS.

WE have received from "C. B. E." specimens of Cucumber roots distorted and enlarged by clusters of white knobs.

The root-nodules in question are generally assumed to have

a fungus origin, but the Rev. M. J. Berkeley long ago described the disease, and showed it to be caused by a parasite of another nature. The description he illustrated with the utmost accuracy. It would seem that the pest which causes the mischief is not always readily seen, or maybe it escapes into the surrounding soil, or, after working the mischief, perishes; but that it is sometimes difficult or even impossible to detect Mr. Berkeley himself confesses. On this account Mr. Berkeley's observation has unfortunately been questioned, but he has quite recently been able to satisfactorily confirm its positive accuracy in *Gardeners' Chronicle*, Sept. 5th, 1874. For our

part we have frequently seen the interior of the nodules just in the condition described by Mr. Berkeley, with the parasites in all stages of growth, from the egg condition upwards.

Our illustration, prepared by Mr. W. G. Smith, represents on the left the diseased roots natural size, and on the right a thin slice through one of the nodules of the roots. The latter is an exact reflection from a camera lucida attached to the microscope, and shows the cellular tissue, A; pitted and spiral vessels, B; the worms coiled up in the eggs, C; worms emerged, D; and empty eggs, E, from which the worms have escaped.

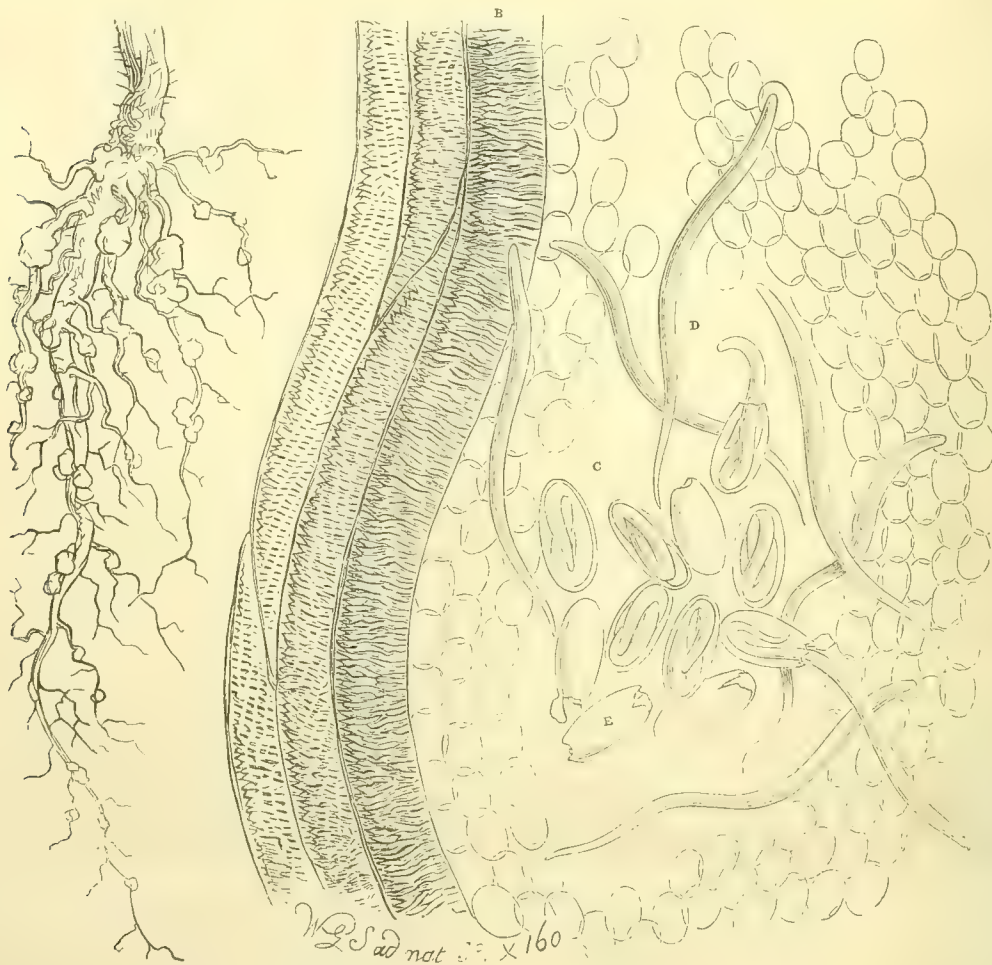


Fig. 20.—THE DISEASE OF CUCUMBER ROOTS, ENLARGED 160 DIAMETERS.

The disease is therefore caused by the presence of minute worm-like infusoria called vibrios, creatures common in decomposing infusions, &c. We have carefully examined your roots with the microscope, and the vibrios as originally described by the Rev. M. J. Berkeley are present in abundance from the egg state upwards. It is much easier to examine and describe a disease than effect its cure. The recommendation generally is to utterly destroy all the diseased roots and the surrounding soil. Whether these nodosities are present or not Mr. Smith finds the nematoid worms in all parts of Cucumber plants when suffering from disease. He has even found them in the cotyledons, and believes them to be the same species common in the juices of dung, in impure (and apparently pure) brooks, in mud by stream sides, and in rain. They are very small. They are supplied to the Cucumber plant in the manure, the manurial waters, or even water from brooks. They speedily eat into the root fibres, and there lay their eggs. The eggs are soon hatched, and the new family eats away further up and more eggs are laid, and this goes on till the whole plant is half rotten. If when the seeds are planted the earth is

saturated with a solution of Mr. Smith's "salus," 7 lbs. to fifty gallons of water (or it may be stronger), he says every worm, and egg, and infusorial animal will be destroyed, and the Cucumbers will be perfectly healthy because the parasites are gone. Mr. Fish and many other growers have now tried this, and he has not heard of one failure; on the contrary, several men who were totally unable to grow Cucumbers at all owing to disease now have good crops. This applies to Melons equally with Cucumbers.

HALL PLACE.

REFINEMENT and culture are the sure indications of an advanced stage of civilisation. A taste for the beautiful and the good is implanted in our nature from earliest infancy, growing with our growth if it be fostered and nourished, but becoming dwindled and almost lost if it is not so cared for. Among the many influences which combine in our own happy country to elevate us it must be granted that horticulture plays no mean part, softening, refining, and imparting a tone such as nothing

else can do. That this influence is now very generally recognised and understood there can be no doubt, for the number of public gardens and parks is constantly increasing, and it is an acknowledged fact that one of the greatest boons a rich philanthropist can confer upon a town is to give it a public garden. How highly such a gift is valued and appreciated the givers, perhaps, hardly understand; nor need I dwell upon it, much as it tempts me, for the fact is patent to all that tone to the mind and health to the body are imparted by such gardens, which have not inaptly been termed the lungs of a crowded community, tending to prolong life as well as adding to its enjoyment. No longer can the advocate of communism point to the "grim exclusiveness" of the enclosures of landed proprietors, for those whom he strives to render dissatisfied with their lot often now are in the enjoyment of a garden that is not unfrequently infinitely superior to "the squire's."

The seats of our landed proprietors are, however, undoubtedly the crown and glory of the land; moreover, they are fast growing in number, especially in the more picturesque parts of Sussex, Surrey, and Kent. Nor is this work of progress and improvement confined solely to the formation of new places. Old mansions and gardens are being rebuilt and remodelled—not always perchance with the approval of the antiquarians, but certainly with that of those caring for real improvement, while they would gladly cherish all that is really beautiful and interesting. Fig. 21 represents what is a striking example of an old place rebuilt, enlarged, beautified. It is one of the many fine places which lie within a radius of a dozen miles of Tunbridge Wells, and is quite worthy to take rank with Eridge Castle, Dunorlan, Possingworth, and Brambletye, all of which places have been fully described in these pages; but of Hall Place (the residence of S. Morley, Esq.)



Fig. 21.—HALL PLACE.

I have no report to offer now—indeed, a detailed statement would be inappropriate for interweaving with these general notes; it must suffice, therefore, to state that the general features of the kitchen gardens and glass houses are striking only from the disconnected straggling manner in which they are disposed, but that the lawns and pleasure grounds are really excellent, being very extensive, agreeably interspersed with shrub groups and fine examples of Conifers and deciduous trees. There is also a quaint Italian garden near the house, a carriage court of ample proportions and dignified aspect, with a very bold sweep of well-kept turf stretching gently downwards to a lake of considerable size, beyond which the pleased eye wanders over more turf to stately timber trees dispersed in the foreground, but thickening into deep shade in the distance, with vast beds of Bracken visible among the backward trees, and advancing so as to form an irregular fringe around the bases of the foremost, just in the way that artists love to depict. Groups of fallow deer, too, impart animation to a scene abounding in beauty and brightness.

I know nothing more pleasant after beholding such a scene, and enjoying it too, even if but for a few brief moments, than to pass outwards from the boundaries of the park, as I did here, into a village abounding with cottages neat, cosy, and compact, surrounded by well-tended gardens, every wall, building, and enclosure in excellent repair, betokening the fostering

care and bountiful hand of a wealthy large-hearted landlord; and moreover proving, if proof were wanted, by the abundant floral embellishments in the windows as well as gardens, how much our common nature is influenced and affected by flowers; and I doubt not that intercourse with the good folks whose surroundings impressed one so favourably would have tended to strengthen my faith in the refining influence of gardens.

—EDWARD LUCKHURST.

AQUILEGIAS.

I SEE one of your correspondents (Mr. Douglas) has been fortunate in raising two new varieties of this very interesting family, and I for one agree with him to the very letter as to the merits of these hardy, beautiful, and free-flowering plants. I grow all the sorts I can obtain, but some I have discarded. *A. aurea* and *A. alpina* are scarcely worth growing, but they bloom freely. *A. glandulosa* is very fine, but rather a shy bloomer, but in some cases it blooms pretty freely. *A. carulea* is a bold-looking fine sort, and blooms more freely than *A. glandulosa*. There is a spurious sort of it to be met with, and is much paler in colour than the original, and is worth growing as a variety. *A. Witmani* is a very free bloomer, and resembles *A. glandulosa* very much. I saw a plant of it this year with 130 blooms on it, and I secured the plant and

made seven out of it. *A. pulcherrima rubra* is a distinct free-blooming sort, and worthy of attention. *A. pyrenaica* is a dwarf alpine variety, but in my opinion not so good as those I have named, and never flowered freely with me. *A. chrysanthia* is a great beauty, and blooms later than any other I know, flowering very profusely. I have a plant of it with at least 150 flowers on it in all stages, and it has been blooming for ten days and will continue till the middle of August; it is nearly 5 feet in circumference and grows 2 feet high. It is the best plant I ever saw of it, and has not any attention beyond a good soaking of water in dry weather. The colour is yellow. I consider it the most interesting *Columbine* I have seen. I saw a seedling named *A. trinityensis* at the Rose Show in Edinburgh last week which had a first-class certificate; it resembles a variety of *A. carules* in form, but is yellow in colour.—J. ADDISON, *Ormiston, Edinburgh*.

TWO-DAYS SHOWS—FIXTURES.

HAD the late Show of Roses at the Westminster Aquarium been a special show of that flower it would not have been supported so well as it was by rosarians. They know that two-days Rose shows only bring disgrace on a beautiful flower, for the Rose on the second day is as ugly as a Rose can be, hence the almost unanimously expressed wish that Rose shows be limited to "one day only." That is a principle that has been adopted by the National Rose Society, the influence of which has been sufficiently powerful during the first year of its existence almost, or quite, to "stamp-out" the plague of two-days shows. But Roses were exhibited at the Aquarium as subsidiary to the Carnations, the Rose section having been a mere adjunct of the National Carnation Society's Southern Show.

No doubt the Aquarium Company had good reasons for continuing the Show for two days. In all probability the returns on one day would not have compensated for the cost that had been incurred, and it is not in human nature to "lose money" if the loss can be averted. No doubt also it was considered that Carnations would continue fresh and attractive during two days, and that a shadow of beauty would remain with the Roses. Generally Carnations keep well in water, but the Show of last week proved that they will not keep at the Aquarium. The Show of these flowers was on the first day a gratifying success, but on the second day it was a miserable failure. The gas-lighted and vitiated atmosphere of the structure makes it a very chancel house for flowers. The condition of the plants tell how destructive the building is to vegetation. It is no longer a "garden," neither can it be made one, except by introducing fresh plants almost daily; and as to cut flowers, the very breath of the place during a few hours of gaslight is deadly poison.

Flower shows in such a place can only be made successful by adapting them to circumstances. There have been two two-days Rose shows, and the results were the same in both instances—namely, the Roses on the second day withered and dying, and many visitors consequently disappointed and grumbling. It is to be hoped that we have seen the last of such shows in the Aquarium. The Carnations on the second day were, to the surprise of many and the disappointment of not a few, almost or quite as unsightly as were the Roses. It is to be hoped that the first failure (the second day's failure) will be the last, and that no more two-days Carnation shows will be seen in the building. Exhibiting flowers when in such a miserable state can only do harm by bringing both flowers and exhibitors into popular disrepute.

Admitting that it is necessary to continue an exhibition such as the one alluded to for two days, would it not be far more satisfactory to have the Carnations treat on one day and the Rose feast the next? The Carnation Society has proved itself strong enough to produce a show of considerable extent and undeniably attractive; is it not strong enough to stand alone? At any rate, if it needs a prop let it be of plants or fruit—Covent Garden commodities; anything but Roses. The Rose is worthy of a better position. Let the Carnations come on the first day and the Roses on the second, and the public will come in as great numbers as if both were shown together and half the time in a miserable state, and will return much better satisfied than if they had inspected faded and unattractive flowers. Is not this proposition worthy of consideration and discussion? What do the exhibitors say?

The question of show fixtures is also a matter of some importance, and especially Rose-show fixtures. It is compulsory

that many shows must be held during an extremely limited period, and their dates cannot be arranged with advantage unless arranged systematically.

Every Rose show of importance requires the presence of the great growers to make it successful; but even they, great as are their resources, cannot be in two or three places at once, nor can they cut to advantage and travel with reasonable comfort without a day occurring between the shows. A very practical rosarian and great exhibitor remarked at one of the meetings that his firm could show oftener and better if the shows were systematically arranged, and he thought that the Committee of the National Rose Society might do much in co-operation with committees of local affiliated societies in preventing such a crowding of shows and a clashing of dates as not unfrequently occur. The holding of two shows in which so many people have an identity of interest on the same day cannot but do injury to both. Common prudence suggests the desirability of keeping clear of collisions by every possible means. The holding of two shows on the same day is akin to running two trains in opposite directions on the same line of rails. The result is a collision and disaster to both.

It is not to be expected that any particular day can suit any particular individual; that is not the question. The individual must stand aside if he is an impediment to the general community. No day can be mentioned for a show to which objection cannot be urged. Not long ago I heard complaint that a show in a certain place on a Tuesday was too near Sunday, yet in the same week all the chief nurseries were exhibiting some distance from London on a Saturday.

Saturday does not appear to be an unsuitable day for a Rose show at least; at any rate some of the best shows have been held on that day. It is a popular day. Why, then, should not Tuesdays and Thursdays be popular also? That would bring in three days of each week and one day between each for preparation, advantages which cannot be secured by any other arrangement—that is, of course, applying the days to districts where the same exhibitors have a chance of meeting.

Under some such system of arrangement I think the Rose shows would be better—better for societies, exhibitors, and judges. Would it not be advisable for the Committee of the National Rose Society to have a voice in the selection of show days of such societies as are in amalgamation? Rosarians, consider the matter.—EX-EXHIBITOR.

BEAUTY OF OXTON PELARGONIUM SPORTS.

I SEND you two blooms of Pelargoniums. The semi-double one is taken from an old plant of Beauty of Oxtou. Last season, wishing to increase our stock of this variety, we took some cuttings from the roots of this plant, and had the labels marked "Stock" in order to keep them from being sold. On looking through our stock plants we found the enclosed bloom, which is quite dissimilar to any other variety we have, growing on a plant marked Beauty of Oxtou, and on further examination found another plant which had sported in a similar manner. Can any of your readers say whether they have found the same thing occur from propagating from the roots of Pelargoniums? Those cuttings taken in the ordinary way are quite true, but these are not only sports in flower but also in foliage. As you know, the foliage of the semi-double Pelargoniums is somewhat crimped at the edges, whilst this is perfectly flat like any ordinary show Pelargonium.—ALFRED H. PEARSON, *Chilwell*.

[The flower of Beauty of Oxtou is true; the other is a flower of a plain, not crimped leaved, French Pelargonium, quite unlike Beauty of Oxtou. We had previously heard that some of the "regal" Pelargoniums do not come true if propagated by the roots, and shall be glad to have further information on the subject.—EDS.]

ECONOMY IN FUEL.

I HAVE no doubt that it has often occurred to persons when they have seen the glow from the furnaces at night that a large amount of heat must pass off unutilised into the atmosphere. In all probability half passes off in this way, and where coals cost 30s. a ton any plan to reduce the consumption to one-half would suit the pockets of some people. I need not enter into the different plans I tried before I discovered one to prevent the heat passing out of the flue. I had 60 feet of iron tube of 1 inch in diameter (inside measure—

ment) wound into a coil of from 5 to 6 feet in length. This coil was attached at one end of the tube to a saddle boiler, while the other end of the tube communicated with the 4-inch pipe which traversed the house. Over the coil I built a dome of firebrick, leaving a small space for the flame to flicker round the tube. This apparatus I placed horizontally inside the house, the feeding door being on the outside. The flue at the further end of the coil was carried up a few inches, and then level over the whole of the apparatus, and then out of the house immediately above the feeding door. Much to my surprise I found that no heat passed out of this flue, the whole having been exhausted by the water in the coil. The rapidity with which this house is heated, and the small amount of fuel consumed, is extraordinary. I am now about to have another constructed on the same plan.—OBSERVER.

ROSE MDLLE. MARIE FINGER.

My friend Mr. Beachey asks if I have any eye to colour. I hope I know a Lily from a Pæony, but perhaps I am colour blind on certain occasions, and I must own that I have not noticed any difference of shade in the colouring of Marie Finger and Mdle. Eugénie Verdier. My impression was that if any difference existed at all it was in form, not colour. I rarely see Marie Finger so globular as her twin sister, but I am informed by Mr. Jowitt that (to my great surprise) Marie Finger is superior in form to Eugénie Verdier. As Mr. Beachey claims superiority in colour also, it shows that there are two good rosarians who make out that Marie Finger is the better of the two. I have not grown the two side by side yet, as I try and vary my colours as much as possible.

Soil, in my experience, makes all the difference in colouring, and perhaps Mr. Beachey's soil may suit that particular Rose so well that he excels in growing it more than he does with Eugénie Verdier. However, I willingly concede my opinion to his, the more so as I look upon the Rose as a great gain to the lighter sorts.

"THE HEREFORDSHIRE INCUMBENT" objects to Mr. Hinton classing the three brothers—Ferdinand de Lesseps, Maurice Bernardin, and Exposition de Brie—as the same Rose. Leaving out the question of wood, I should much like to see how my friend describes the difference between any two of the three.

I cordially concur with Mr. Hinton in his desire to leave the Tea election for another season. His hands are quite full enough already, and the great want this year is lists of the best exhibition Roses, and given only by those growers who have won a leading prize at the great shows of the last few years.—WILD SATAGE.

PROPAGATION BY CUTTINGS.

"PACEX" asks for information about the making and management of cuttings of Roses, Pinks, Carnations, Pansies, Rhododendrons, &c. A wise man is "PACEX;" for that "&c.," although an abbreviation, is wonderfully inclusive, pointing in this instance to all such plants as come within the scope of an amateur who is the fortunate possessor of a really good little garden. Gladly do I respond to his appeal now when so many plants have growth in the best possible condition for our purpose, and when the temperature of the soil and air is so warm as to ensure success without artificial aid, other things being equal.

I always like to know the reason why a given practice is adopted; and "PACEX" evidently shares this feeling with me, for he asks why he is advised to insert some cuttings in the shade and to expose others to the full glare of the sun. Such a question suggests that the first principles of the operation of striking cuttings are not generally understood, and therefore I cannot but be doing good service in showing what those principles are.

What, then, is a cutting? In most instances it is the shoot of a plant cut off when in full growth in a tender succulent condition, and therefore quite certain to wither and die very quickly if prompt measures are not taken to prevent the evaporation of its juices. Now the shoot of a Pelargonium is so stout in texture and so abounds in succulent matter that prompt insertion in moist soil, followed by a thorough soaking from the rose of a water pot, renders it perfectly safe for the moment, although the border in which it is inserted is fully exposed to the sun. It may afterwards be necessary to water it twice a day, but it requires no shading excepting perhaps

for the first two or three days, and that only if the weather is exceptionally hot. But a Verbena shoot if thus exposed would die; nothing could save it, simply because its slender stem and thin foliage lack the juicy stores and robust proportions of the Pelargonium; therefore we insert it in a shaded frame, or, better still, under a low bell-glass, in order that the part above the soil may be constantly enveloped with air that is heavily laden with moisture. I am particularly anxious that this should be set forth plainly, because when it is once understood a host of contrivances will present themselves to an ingenious mind.

No hotbed is necessary at the present time. We may even dispense with a frame, and by pressing a bell-glass firmly into the soil inside the rim of our cutting pot we may with one turn of the hand form a portable propagating house, which alone or with hundreds of others may be placed for shade behind a wall or hedge. I have even, when unable to meet an immediate demand for small bell-glasses, purchased some common half-pint tumblers, and very well remember my first batch of Clematis cuttings was inserted under some of those tumblers, the cuttings striking root freely without a single failure. I am not now writing for the "great gardeners," but for the especial good of the very numerous class who must make shift with various and simple contrivances, and who frequently do so to such good purpose as to obtain results that are equal to those which one sometimes meets with in gardens abounding in every facility of ways and means.

Cuttings of Pansies and all the Viola tribe, with Pinks, Carnations, and a host of kindred plants, are usually inserted in a border at the foot of a north wall, sometimes under hand-glasses, and failing them in the open border. This is done because such cuttings emit roots freely in such a position. Hand-glasses are certainly preferable, as they tend to promote a more prompt and ready emission of roots, and also check evaporation from which Carnations are apt to suffer.

Rose cuttings should be made from stout shoots which have borne flowers in the current season, as was explained in these pages very lately. I used formerly to consider the protection of a glazed frame necessary for them and have advised its use, but subsequent experience has led me to discontinue it and to insert the cuttings in an open border a little deeper in the soil than when inserted in pots under glass. If due care is given to this and to select shoots which are stout in growth and firm in texture, I fail to see why all sorts of Roses may not be raised from cuttings with the greatest ease. I know well that there are very few sorts which fail to grow freely and well upon their own roots when under really good culture. But the Rose is a greedy plant, requiring liberal supplies of rich food, and no half-and-half measures will answer in its treatment.

It is not always that cuttings of bedding plants such as Heliotropes, Verbenas, Petunias, Lantanas, Cupheas, and Ageratum can be made so early in the season as could be desired, nor is it always an easy matter to obtain a supply of cuttings when the beds are crowded and the growth old and hard. It is therefore good practice to plant a reserve plant or two now in a cool border sheltered by a hedge or north wall, solely with a view of providing a few stout cuttings for stock later on. This method is especially applicable to Verbenas; and then if cool autumnal nights steal upon us before the cuttings are in we have only to make a slight bed of grass-mowings and leaves whereon to place our frame or hand-glass, under which we plunge our cutting pots to the rims in the bed, and a supply of sturdy plants is quickly forthcoming.

Rhododendrons are generally raised by sowing seed, by grafting, and by layering. If "PACEX" wishes to increase the number of any favourite sort he will probably best succeed by pegging-down—layering—some of the lower branches 3 or 4 inches under the soil. I prefer doing this fully a month earlier, just when the new growth appears, but it may be done now onward to the autumn successfully.—EDWARD LUCKHURST.

TREES AND FLOWERS.

AMONG the chief silent friends, comforters, and cheerers of man are trees and flowers. I have sometimes asked myself, Which gave me the more pleasure? Perhaps a reader will answer readily, "Flowers." But think a moment. Time and continuity are great tests of friendship, and these tests trees will bear; for flowers soon wither, die down, perish, but trees are more constant—they abide by us always, they are neighbours, I might almost say, for ever.

Not only are trees with us in leafy June, one of the most

enjoyable of months of all the year, in their bright green splendour, but when autumn comes there they still are—clad in another garb of beauty, more gorgeous though not so glad; and even in winter, who would wish to be without their tree neighbours? The perfect symmetry of a tree is never better seen than in winter, and the dullest eye and heart recognise their vernal beauty; also, there are trees which openly show no change in their leaves, and so gladden us all along the dreary season by their greenness. Moreover, in those that shed their leafy garb see the fantastic forms of beauty which they become when decked by a hoar frost or a snow storm, especially by the former. I would say that nothing takes off the dreary feeling of winter so much as the presence around us of fine-grown trees. When all that out of doors formerly cheered us is gone; when flowers, corn fields, and green grass are no more; when hedges have become mere dark lines or intersected branchlets, yet the trees are there around us still, and present with us to comfort us.

Perhaps no one can so thoroughly appreciate the value of fruit trees as one born or having lived many years among them. The treeless plains, like prairies, are akin to the ocean's calm, and on them companionship seems lost. We read of one where the architect wished to cut away a noble old tree, who said, "No! move the house, but you cannot grow such a tree in my lifetime. Oh! the hours of pleasure I have taken under its shade, and the sweet memories of youth and its associates they bring are beyond all art's splendours."

Let trees have their meed of praise. They are the constant abiding friends to us. They vary indeed according to season, but each variation is a separate beauty; bud, leaf, lighter at first, then darker; then come the richly autumnal tints, and then the grand visible branches stretching far and wide during the winter months; long, low-hanging limbs lying above and not far above the backs of animals that minister to our daily comforts, and when the heavy frosts come the whole tree is standing jewel-decked.

But let flowers have their meed of praise. They are the loveliest of all things while they last; bright visitors whose coming is looked forward to with longing—bright visitors that leave behind them pleasant memories, who are talked of after they have left us.

I liken perennials to old friends that come and stay with us a few days each year—old, old friends, whom we have known so many years that we cannot tell exactly where our friendship began. Then as flowers differ in appearance, I liken them to different friends. Some I compare to quiet maiden aunts, whom all the children gather round and love, whom the youngest—that little impatient youngest one—obeys readily and feels happy in so doing. Other flowers, not a bit like these, so my fancy runs, are so bright and good-looking that I compare their visit to that of some bright-eyed merry girl—merry, so merry that she makes the house ring with laughter—merry, so merry that she even "makes a sunshine in a shady place," and her visit has made such a difference to the quiet-home routine that when she is gone you wonder and mark the change, and sigh to think that in a few years the world's heavy weight will subdue to a quieter tone even that merry laugh. And so of other and other flowers.

Lastly, of trees and flowers: the former we wish to have, the latter we must have, as the child will pluck the Daisies. Happily our craving can be readily satisfied, for flowers are easily carried into the heart of great cities, placed by sick beds, found or taken everywhere. No need of choice sorts for these purposes. The nosegay of common flowers from a common garden, the Lilac or Spiræa, or those from the woods are sufficient unto the sick, are welcome and give untold happiness.—F. R. ELLIOT, *Cleveland, Ohio.*

THREE YEARS' EXPERIENCE IN A GREENHOUSE. PROLOGUE.

HAVING as an amateur been very successful in raising a rather large family of plants and flowers—for I always call them my children, and perhaps tend them with as much loving care as though they were endowed with human instead of plant life—I have for some time past thought of giving my experience for the benefit of those whose tastes are akin to my own but fail to attain the results. I must first say that my knowledge of plants and flowers is so exceedingly limited that I am really not certain when I raise a good thing, having had so few opportunities of comparison, and it is of course only by comparing that one can judge; so it suggested itself

to me to write to the Editors of our Journal, sending at the same time a few specimens of the flowers I raised, and ask them if they were really worthy of commendation. I did so, and received a most satisfactory answer; hence this attempt to give my fellow workers a few simple results.

I began with a frame, and would advise others to do so, for a frame is but a greenhouse in miniature, and we certainly ought to master our letters before we attempt to read. A frame—well, what is a frame? Mine was an old box 24 inches by 12, cut off on a slant and covered with a single sheet of glass simply laid on the top. In March I sowed half with *Tagetes* and the other half with *Phlox Drummondii*. When about 2 inches in height I transplanted the best of the seedlings to another frame about 2 inches apart, let them grow, pinched out the tops in about a fortnight, then at bedding-out time (May 20th) planted them out. Well, you will say perhaps, "What then? We have grown the same things without all that trouble." Ah! but how about results? The *Tagetes* were enormous, and though I planted them 18 inches apart their frond-like leaves overlapped; and as to the *Phlox*, my friends told me they had never seen their like though they grew them—and why? Simply because they had never taken the trouble. I remember reading in our Journal how to protect Peas from birds by stretching black threads across and across the rows. I tried it, found it thoroughly effectual, told my friends who complained bitterly of the birds eating half their Peas. What did they do? Used white thread instead of black, though I had given them the reason for using the latter—viz., that the birds seeing the white threads avoid them, but the black being invisible scare them on coming in contact, the birds evidently suspecting a trap. However, they who used white thread lost their Peas, which is a grim satisfaction to those who gave tested and practical advice.

I trust my readers will not be impatient to get to the greenhouse. In my next paper I will relate how I constructed my greenhouse for £12 15s., including a thoroughly efficient heating apparatus, not only to grow *Geraniums*, but such plants as *Gardenia*, *Stephanotis*, *Gloxinia*, &c.—*RESPICE FINEM.*

ROYAL BOTANIC GARDENS, KEW.

[THE Report for the year 1876 has been issued. We extract the following.]

The number of visitors exhibits a considerable falling-off as compared with last year, being just below 600,000 (596,865). This is the smallest number since 1872. A comparison of the figures given in the appendix will show that the diminution in the whole attendance is largely accounted for by the diminution in the months of May and June, during the former of which cold and easterly winds prevailed. On the 7th of August the Royal Gardens were visited by 64,163 persons, the largest number which has ever been recorded for any one day.

In the Palm house a great improvement has been obtained in the general effect. It has been found necessary to cut down nearly all the large Palms on the north side of the transept, and plant out others in their place. The following are the more important changes:

Arenga saccharifera cut down and replaced by *Sabal glaucescens*. *Livistona inermis* (*L. australis*), "Bot. Mag." 6274, cut down and replaced by *Phoenix dactylifera*. *Sabal glaucescens* transplanted and replaced by *Astrocaryum rostratum*. *Acrocomia sclerocarpa* cut down and replaced by *Thrinax aculeata*. *Sabal umbraculifera* cut down and replaced by *Livistona chinensis*. *Veitchia canterburyana* transplanted and replaced by *Ceroxylon andicola*. *Phytelephas macrocarpa* removed and replaced by *Attalea Cohune*. *Areca alba* cut down and replaced by "*Euterpe pisisera*."

The number of species and varieties of Ferns in the Royal Gardens is now upwards of one thousand.

INDIA RUBBER.—On the 14th of June of last year Mr. H. A. Wickham, a resident on the Amazons, who had been commissioned by the India office to collect seeds of the *Hevea brasiliensis*, arrived in England with 70,000, obtained on the Rio Tapajos. In consequence of their retaining vitality for but a very short period they were all sown the day after arrival, and, although not contained in pans, covered a space of over 300 square feet closely packed together. About 3½ per cent. germinated, some as early as the fourth day after sowing, and many in a few days reached a height of 18 inches. Upwards of 1900 plants were transmitted August 12th in thirty-eight Wardian cases made specially to accommodate the rapid growth of the seedlings, to Ceylon under charge of a gardener.

Of the whole consignment 90 per cent. of the plants reached Dr. Thwaites in excellent condition, and they will remain in Ceylon for the present under an arrangement which I suggested between the Indian and Colonial offices, that the young plants which could not thrive in the climate of Calcutta or any of the more accessible gardens of continental India, should be nursed and established in Ceylon for subsequent transmission through the Indian gardens of Assam, Burma, and other hot damp provinces of India proper.

TEA.—The establishment of Tea plantations in Ceylon, which date from about 1868, to which I alluded in my report for 1873, is now a proved success. Samples communicated to Kew have been pronounced by experienced brokers as of very excellent quality.

THALICTRUMS FOR MIXING WITH CUT FLOWERS.

PERHAPS there is no greenery so acceptable for making up nosegays, or for mixing with cut flowers generally, as Maiden-hair Ferns. There are, however, many who do not possess the means of growing these Ferns, but who are much in the habit of arranging flowers in nosegays and glasses; and to them I would strongly recommend the growth of a few *Thalictiums*, the foliage of which in appearance very much resembles *Adiantum cuneatum*, commonly known as the Maiden-hair Fern.

Thalictum adiantiforme being probably the most elegant of the genus, I place it first. It is a distinct and lovely species, the foliage of which has a striking resemblance to the Maiden-hair Ferns. It is a lovely border or rockwork plant, and is most elegant for mixing with cut flowers. *T. adiantiforme glaucum* is in all respects similar to the preceding except in the colour of its leaves, which are of a glaucous green; and owing to the variety of colour which it gives, it is very effective for decorative purposes. *T. minus* is a very neat and distinct variety, which, from the neatness and compactness of its foliage, is sweetly pretty when mixed with cut flowers in small glasses or nosegays. These are perfectly hardy plants, and no one who can possess them need ever be at a loss for good substitutes for *Adiantum* fronds for mixing with flowers.—T. M. (in *The Gardener*).

OBSERVING INJURIOUS INSECTS.

SOME reference has been already made in these pages to a small pamphlet entitled "Notes for Observations of Injurious Insects," and which, though prepared by its author with a more immediate bearing on agriculture, stands also in close relation to horticulture. As an entomologist I wish to offer a few remarks upon it, though not in any spirit of carping criticism. I quite endorse all that is said on the desirableness of obtaining regular observations on the appearances and habits of destructive insects from every county throughout these islands. Such observations might be made by farmers, gardeners, and naturalists with far less trouble and expense than meteorological observations, and I suppose they would be quite as valuable. Also the statement is highly important that amongst the particulars to be noted those chiefly to be attended to are the "presence of surroundings," the "agricultural [and geological?] conditions," and the "state of the weather." So much for the outset, and then follows a brief description of sixteen insects, singled out from their brethren either, as most would assume, because they are offenders of the deepest dye, or else, perhaps, because they are more easily observed than are others. It is said in the pamphlet that these are "selected for observation," and though it may be esteemed desirable to have a summarised list of injurious insects, especially of those which frequent gardens as well as fields, we have no right to quarrel with a special list provided it is well drawn up.

But—there's the rub—I do not consider this list is by any means a happy selection considered either in regard to its insertions or its omissions; in the case of the latter, doubtless the author of the "Notes" could give his reasons why he has passed by some species which really need attentive observation, and which are sufficiently conspicuous for anyone to take notes as to their economy. It seems odd to have no mention of such destructive beetles as are those of the genus *Otiorhynchus*, or that widely-distributed nuisance of spring the *Aphrophora spumaria*; and aphides, we all know, are troublesome to the farmer as well as the gardener. Or, taking the order *Lepidoptera*, we might ask why such species as *Cheimatobia brumata*, *Triphæna pronuba*, or *Plusia gamma* should not be

specified? In fact, instead of sixteen one could easily make out a "century" of injurious insects, and leave many species not included therein.

Examining, however, the particular species which are actually contained in this list, we find merely a sentence is given to a passing mention of *Agrotis segetum*, but it is not numbered amongst the sixteen, though the ravenous caterpillars of this and of some allied species are every year caught in the act of depredation, and they furnish good scope for observation, for surface or root-feeding caterpillars are ticklish to deal with. Leaving out of our calculation three species named as important enemies of our corn crops, we have thirteen left in which we may be supposed to be interested as horticulturists. Nothing need be said against the mention of *Haltica nemorum*, *Anthonomyia ceparum*, *Psila Roseæ*, *Mamestra Brassicæ*, *Pieris Brassicæ*, *Agrotis obscurus*, *Tephrites inopordinis*, and *Athalia spinarum*, though in naming some of these, closely connected species might have been referred to; as, for instance, with *M. Brassicæ*, *M. Persicaria* also. Besides the moth just named only one more is specified—*Abrazas Grossulariata*, which certainly commits damage in gardens (it appears, however, to infest Gooseberries and Currants less commonly when they are grown in open places at some distance apart), yet on the whole I believe it is less harmful than the Gooseberry Sawfly. The four insects yet to be named should not, I think, have been placed on the list at all. The first of these is *Sirex gigas*, which certainly attacks the Fir in its larval state, but has nothing to do with our food crops. The second, *Asilus Crabroniformis*, is a species decidedly beneficial, so far as we know it, for the imago preys on smaller flies, and the larva, though presumed to be a subterranean feeder, is not suspected of attacking cultivated plants. *Colias Edusa*, the "Clouded Yellow" Butterfly, breeds in Clover fields; but neither in England nor on the Continent has it ever been sufficiently numerous to do any perceptible damage. Lastly, *Neuroterus lenticularis* is added, and it is almost laughable to speak of this as a hurtful species, for it can only be accused of disfiguring leaves, chiefly those of the Oak, by producing the scarlet disks with which we are all familiar. Still, if it has defects, I also admit this list is likely to do good by promoting regular inquiry into the habits of field or garden insects.—J. R. S. C.

OUR BORDER FLOWERS—LOOSESTRFES.

THE common name was given to this family from the quality absurdly ascribed to it by the ancients of quieting restive oxen when put upon their yokes. Linnæus tells us that it was botanically named after King Lysimachus of Sicily, who first used it.

The species of *Lysimachia* are not very numerous, but of late years we have had some additions, yet we seldom meet with many of them in cultivation. They may not, in the estimation of the casual observer, have the attractive properties that some of our border flowers possess, but to those interested in the cultivation of herbaceous plants they have their charms. They are a widely distributed family, especially *Lysimachia vulgaris*, which is not only found wild in many places in our own land, but in other countries too. It is quite a sight to see this occupant of moist places by the sides of ditches and streams in some of the northern counties in the late months of summer, lifting its large panicles of pretty yellow flowers above the hedges. It is a fine plant for affording cut flowers, which keep long in beauty. When once established it is not easy to eradicate, having underground stems. It is a strong grower, and is not particular as to soil or situation; a fine plant for waste out-of-the-way places. *Lysimachia clethroides* is a fine border plant, having pretty white flowers. It is of pleasing habit, and only needs to be seen to be appreciated. *Lysimachia Nummularia*, our own Creeping Jenny, and its golden descendant are charming plants for rockeries or moist places in partial shade; they are useful too for vase or basket decoration, and for planting near the margin of ponds and in damp places. Their beautiful yellow flowers have the appearance of a sheet of gold. *L. thysiflora* should have a corner near every lake and pond. If not so beautiful as some others, its rarity as a native plant claims for it a place in our estimation. When seen in masses it is very attractive. It requires time and care to get it established, and then leaving alone. *Lysimachia punctata*, a showy border flower, ought to be much more cultivated than it is. It is one of the tallest of the race, and makes a fine display when well established. *L. Ephemerum*, one of the choicest of the family, is a grand plant, having

white flowers and pleasing habit—an acquisition, and useful for exhibition. *L. ciliata*, *stricta*, *verticillata*, *quadrifolia*, and others that might be named are all useful for shrubbery and out-of-the-way places, and will flourish wherever they can obtain light, air, and moisture. They are easily increased by division when growth has commenced in spring.—*VERITAS*.

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

DYCKIA FRIGIDA. *Nat. ord.*, Bromeliaceæ. *Linn.*, Hexandria Trigynia.—“The species of *Dyckia* are mostly Brazilian, and some of them come from the colder southern provinces. This is probably the case with the accompanying plant, which flowered freely in the cool half of the succulent house at Kew in February of the present year, and is now maturing its capsules. It was received from Messrs. Linden under the name of *Pourretia frigida*.”—(*Bot. Mag.*, t. 6294.)

TIGRIDIA LUTEA. *Nat. ord.*, Iridaceæ. *Linn.*, Monadelphia Triandria.—“It was named and well figured by Link, Klotzsch, and Otto, from a specimen sent to the Berlin Botanic Garden, from the island of Chiloe, by Professor Philippi in 1840. It is the only species of *Tigridia* that comes from that part of the world, all the other five that are known being Mexican. The present drawing was made from a plant that flowered with Mr. H. J. Elwes at Cirencester in the autumn of 1876.”—(*Ibid.*, t. 6295.)

CYPRIPEDIUM HAYNALDIANUM. *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Diandria.—Native of the Philippine Islands. Greenish white, blotched with dark brown. It flowered in February at Messrs. Veitch's, Chelsea. “It is named after his Excellency Dr. Ludwig Haynald, Archbishop of Kalocsa in Hungary, whom Dr. Reichenbach justly commemorates as a zealous botanist and an active promoter of science and art, and whose name will ever be most honourably connected with the development of Hungary.”—(*Ibid.*, t. 6296.)

XANTHORRHEA MINOR. *Nat. ord.*, Juncæ. *Linn.*, Hexandria Monogynia.—“We have native specimens (gathered by myself in company with Mr. Gunn), on Grass Tree Hill, near Hobart, and others from Victoria; whilst the much larger form abounds near York Town, Tasmania, where, according to Gunn, it covers hundreds of acres, to the exclusion of almost every other plant. In December, 1841, Mr. Gunn describes the country as being white with it, one plant producing thirty-six flowering scapes, whereas in the following year he could get only six or eight specimens in flower on the same spot. From this he assumes that the *Xanthorrhoea* do not flower every year. The copiously-flowering one may be that alluded to by Mueller (Fragments, iv. 112), as possibly distinguishable from *X. minor*, and if so to be called *X. polystachya*.

“*X. minor* was sent to Kew some years ago by Baron von Müller from the rich collections of the Melbourne Botanic Gardens, of which he was the Director, and it flowered in February of this year; its flowering season in Australia being December and January.”—(*Ibid.*, t. 6297.)

GLOBBA SCHOMBURGKII. *Nat. ord.*, Zinziberaceæ. *Linn.*, Monandria Monogynia.—“*Globba Schomburgkii* was discovered by the late Sir Robert Schomburgk when H.B.M.'s Consul at Siam, who sent roots to Kew in 1864, where it has flowered repeatedly in August. It has been distributed as *G. bulbifera*, *Roxb.*, from which and from all others it differs in the curious panicles.”—(*Ibid.*, t. 6298.)

PREMIER PEACH.—“This fine Peach was raised a few years ago in the Royal Gardens at Frogmore, and is the result of a cross between the *Grosse Mignonne* and *Bellegarde*. In general appearance it much resembles the latter variety. The fruit is large, round, and of even outline, with a slight suture extending generally to the apex; the skin is purplish red, becoming very dark when fully exposed to the sun, and often having spots and blotches of dark red on the shady side and near the base. The flesh is tender, juicy, and melting, with a delicious flavour; and the flesh parts freely from the stone. This variety truly deserves a place in every garden where Peaches are grown on the open wall, on account of its hardiness, healthy habit, and the good quality of its fruit. Mildew never attacks it, and it is generally free from the other ills to which Peach trees are subject.”—(*Florist and Pomologist*, n.s., x., 97.)

NOTES ON VILLA AND SUBURBAN GARDENING.

FRUIT TREES of all kinds are this season making free growth, and the great difficulty will now be to have such growth fully ripened; therefore continue to train and nail-in the young wood

of wall trees, but let all superfluous growths be removed. As a rule the shoots should be trained sufficiently thinly that the foliage of one branch does not overlap that of the next. The stopping of pyramids and bush trees should be finished forthwith. It will not be necessary to give any advice towards the thinning of stone fruits, as in very few cases are there sufficient to half recoup the labour expended upon them. Apples are more plentiful than most other kinds of fruit, and go where you will in Surrey the same complaint is heard—no Pears, Plums, or Cherries on the bush trees, and very few Peaches and Nectarines on the walls. Under these circumstances Grapes and Melons will be the more valuable, and it will be well to secure late crops of the latter.

Strawberries have now in most cases ceased bearing; the laying of runners in pots for forcing or for renewing future plantations must receive immediate attention. The late showery weather has been favourable to the growth of runners, and the earlier these are planted in their new situations the better, as the stronger the plants become before winter the more fruit may they be expected to bear next season. In very few instances will plantations remain in health and vigour many years, consequently periodical renewal of plantations is absolutely necessary; and though the Strawberry may be considered a surface-rooting plant, not one delights more in deeply-trenched and well-manured ground. In making a selection of kinds it is well to remember that some sorts flourish and fruit well on some soils, whereas on other soils they will do no good; but the following kinds do well in most situations: Keens' Seedling and Vicomtesse Hericart de Thury for the earliest crops, the first a good-flavoured and early Strawberry, the latter a good grower and prolific bearer. President, a good-looking and free-bearing Strawberry, which ought to be in every collection. No Strawberry stands more highly in popular favour than President. Sir Harry, a good old kind, and as Mr. Baker grows it at Coombe Cottage it cannot be excelled. Mr. Baker says there are spurious sorts of Sir Harry sent out. Dr. Hogg is a good and useful Strawberry, but does not succeed in all situations. Lucas, James Veitch, and Her Majesty are good sorts, and have much to recommend them both for cropping and the large size of the fruit. Her Majesty, as shown by Mr. Jordan at Wimbledon this season, was one of the largest Strawberries we have ever seen, and he speaks highly of it. Where a late kind is desired there is none to excel the Elton Pine.

Roses require frequent attention to keep them orderly, taking off all suckers and fading flowers as they appear, and running the hoe frequently through the soil after rains, not only to keep down weeds but to give an air of finish and tidiness to the beds. The Rose is indeed an amateur's plant, none more so. No garden however small is without a Rose, and its cultivation is a source of delight. Budding should now be accomplished as rapidly as possible. The first batch of Roses are over, and there are therefore plenty of buds to choose from. The weather has been everything that could be desired, so that the stocks will be found in good condition at the present time. In selecting the buds take those that are plump and firm. Full directions for budding were given with cuts (which will do more to help beginners than a page that could be written on the subject) in the number for July 5th, page 12.

Camellias, Azaleas, Ericas, Epacrises, Acacias, Cytisus, Coronillas, and all other hardwooded greenhouse plants are benefited by being placed out of doors on a bed of ashes or on slates or tiles. A north-west position should be selected if possible. The wood then becomes gradually ripe and firm, which not only causes them to set their blooms the better, but is a great preventive of mildew, red spider, and other enemies. Watering such plants frequently overhead after warm days does much good, but at the same time see that they have free drainage, for very few continue healthy if water stagnates about their roots. Late-blooming plants of *Aphelexis* and *Dracophyllum gracile* are the better for having their blooms cut off, pruning them down to where they commence new growths. Cuttings of *Kalosanthes* now strike very freely and make useful decorative plants. *Pelargonium* which have ripened their wood should be cut down, and the cuttings inserted in small pots or in the open ground; they make useful plants by next spring. As the houses become emptied of their contents it is a good time for cleaning and repairing. Paint if applied now will become hardened and sweet by the time the plants are placed in the houses for the winter. Cleanliness, plenty of water, and moderate shading are the chief wants of plants during summer.

In the kitchen garden all kinds of the Cabbage family may be planted, if not already done, for winter supply. As early Potatoes are lifted successive crops of Turnips, Coleworts, Cabbage, &c., must be planted to fill up the ground. The main crop of Endive may now be sown. The Broad-leaved kind is useful during winter months as a culinary vegetable. Fraser's Improved Broad-leaved and Batavian are good sorts for this purpose, but the Moss and Green-curbed are most sought after for salads. Sowings of Lettuce should also be made, which will help to carry on the supply until Christmas. Hicks' Hardy

White and the Brown Cos are useful sorts of the Cos varieties, and the All the Year Round of the Cabbage varieties. The ground between the Celery trenches is an admirable place to perfect their growth.—J. W. MOORMAN.

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

HARDY FRUIT GARDEN.

THIS is the best time to propagate by budding those trees that are best increased in that way, the most prominent being Peaches, Nectarines, Plums, Cherries, Apricots, and Pears on the Quince. The buds inserted on the Quince stock should be near the surface of the ground, in order that when the trees are planted or potted to form orchard-house trees the union may just be covered with soil. In respect of the others named this is immaterial, as the trees can either be treated to produce dwarfs or standards of any height. It is best to choose strong fairly-matured young wood from which to take the buds; of the Peach and Nectarine, which bear only on the young wood of the previous year, there is considerable difficulty in procuring buds, as those only can be used that are in triplets. The middle bud will produce a shoot and the side buds blossoms. All single buds are blossom buds. As detailed and illustrated articles have so recently appeared in this Journal on budding Roses, and as the method of budding fruit trees is similar, there is no need to say any more about it here. In three weeks after the operation has been performed it is well to look over the work and loosen the bandage. Those buds of which the bark is fresh and green have taken; the shrivelled and black buds are dead, and a fresh one may be inserted in another part of the stock. If the stocks are very dry at the roots it will be necessary to give them a considerable supply of water, else the bark will not separate freely from the wood, and if it will not do this successful budding is impossible.

Vines on walls now require to be carefully looked over and to have all lateral and unnecessary growths removed. If the Vines are crowded with young wood success can no more be looked for on walls than in vineries mismanaged on the same principle. The Vines which succeed best cultivated on walls—viz., the Royal Muscadine and White Sweetwater, produce the finest flavoured fruit when it is exposed to light and the influence of the sun's rays. Black Hamburgh succeeds well on walls in favourable positions in the south of England, but the fruit must not be so freely exposed as that of the white varieties. The shoots should be laid-in securely and regularly over the walls, and when this is the case a very pleasing effect is produced. To be successful with the Sweetwater and Muscadine a supply of strong young growths must be produced annually from the base. The spurs do not produce well after the third year. We would not have them more than two years old, especially if the walls are under 9 feet in height. We need not say anything about thinning-out the fruit this year, at least no one in this district requires information about it.

Cherries have been a most abundant crop, and indeed all small fruits. Our wall trees have been looked over some time ago, but those who have not yet stopped the laterals and laid-in the young wood should lose no time in doing so. The trees will grow the more freely the less fruit they produce. See that all insect pests are destroyed if possible as soon as they appear.

PINE HOUSES.

The plants have been examined in all the houses, beginning with the fruiting house, where a large proportion of the fruit had been cleared off. The plants were furnished with some strong suckers; these were taken off close to the old stem, and have been potted in 7-inch pots, using good sound loam five parts, one part of decayed manure, and a little charcoal broken into pieces the size of a walnut. The pots are well drained, and a little fibre placed over the potsherds prevents the compost from mixing with them. When potted we plunge the pots to within an inch of the rim in a bed of tan fresh out of the tan-pits; this will raise the bottom heat to about 90° or 100°. The old plants were thrown out, and all those on which the fruit had not yet ripened were placed together at one end of the bed. The plants intended to fruit next summer have been removed to the fruiting house, and the pots also plunged in a bed of fresh tan. They are not nearly so strong as we have had them, but the leaves are broad, short, and well browned. We have seen immensely strong plants that had been grown in a close moist atmosphere, and although they gave promise to produce great results they did not come up to expectation. The Pine houses ought to be well supplied with fresh air and the plants be freely exposed to the sun, maintaining at the same time a sufficiently high temperature. Pine plants if kept in conditions conducive to vigorous health are seldom attacked either by scale or mealy bug; but a careful look-out must be kept for these pests.

GREENHOUSE AND CONSERVATORY.

Where there is a large collection of hardwooded plants some-

thing will always be required to be done. Tying-out the young growths, watching the plants for red spider, green fly, and scale, and during hot dry weather attending to watering them, will give ample pleasant employment to the ardent cultivator. Nor will he allow any plants to suffer for want of repotting at the proper time. One of the most useful plants is the *Statiche profusa*. Ours were attacked by mildew, red spider, and green fly at one time. We did not try any patent washes for them, but made a solution of soapy water as strong as the leaves would bear, and added a good proportion of flowers of sulphur. The plants were held over a water-carrier in order to save the water, which was applied again and again with the syringe until every part of the leaves was well wetted; the effect of this being to thoroughly cleanse the plants from all their enemies.

Stage *Pelargoniums* are still furnished with some fresh trusses of finely developed flowers. Those that are faded are removed at frequent intervals, so that the house is kept tidy. The earliest plants are removed out of doors and do not receive a very large supply of water at the roots; and as soon as the wood is ripened the plants are cut down, but before doing this the soil in the pots is allowed to become almost dusty dry, so that bleeding from the cuts may be prevented and the wounds may heal more readily.

Fuchsias are the most useful of plants for decorative purposes to succeed stage *Pelargoniums*, and no garden ought to be without a selection of them. Plants raised from cuttings struck early in the spring show the most vigorous development if potted in rich soil—good turfy loam four parts, well-decayed manure, and a little bone dust and leaf soil added will make an excellent compost. The varieties now in cultivation can hardly be overgrown if the compost is not too strong for the roots, their character is so floriferous. As a rule young plants are the best for general purposes, but a few large specimens have an excellent effect arranged as a background on large stages. An excellent effect is also produced by training a single stem to the rafters of the greenhouse. At the nurseries of Mr. John Fraser, Lea Bridge Road, may be seen a number of plants trained in this way annually. He strikes the cuttings in the autumn and grows them on rapidly in such soil as has been recommended. The plants are grown in 10-inch pots, and continue producing enormous quantities of flowers all the summer and autumn. The best varieties adapted for this work are *Arabella*, *Constellation*, *Delight*, *Josephine*, *Marginata*, *Puritani*, *Lustre*, and *Snowdrop*: these are sorts with single flowers. Of double varieties there are *Alpha*, *Champion of the World*, *Diadem*, *Elegant*, *Empress*, *Harry Williams*, *La Neige*, *May Felton*, *McMahon*, *Sir Colin Campbell*, and *Tower of London*. The above sorts are recommended by Mr. Fraser for this purpose, who says that some sorts are better suited for this purpose than others.

FLORIST FLOWERS.

The Tulip roots have been lifted and stored away in a dry cool loft for the present. Each sort was lifted separately, and the roots with all offsets attached placed in a small flower pot with a label, to be attended to at a more convenient season. Tulips and Hyacinths in pots have also had the soil shaken from the bulbs, but we are not very careful about the names to these. The roots were thrown into baskets, and the best roots will be potted, the Hyacinths three in a pot, and the Tulips about six.

As the Carnations go out of bloom those plants that are in pots are placed out of doors in a position well exposed to the sun, and the grass will be layered when it is in good condition. Auriculas behind a north wall are still enjoying a quiet rest. They do not require much water at present, but they must not be allowed to become too dry at the roots, and when the sun comes round to the frames in the afternoon it will be well to throw a slight shade over the glass. As we expected, the pipings of Pinks are not striking very freely, except those that were very small and composed of the side growths. Gross succulent shoots do not root freely under any circumstances. If any varieties refuse to strike roots more suitable pipings may be obtained in a week or two.

Gladioli are very late in offering to throw up the spikes this year, the reasons being a late season, and there was no opportunity of planting any roots early owing to the continued wet and cold; but the appearance of the plants suggests that we shall have a good bloom. The surface of the beds has been mulched with manure, and they have received one good watering. Dahlias and Hollyhocks will now engage much attention. The surface of the ground must be mulched, and the plants watered if they require it. Both are gross feeders, and can take in dry weather a plentiful supply of manure water.—J. DOUGLAS.

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

RATING HORTICULTURAL STRUCTURES (J. W. W.).—They are not exempt from the supervision of the Local Board. If the buildings are rated your appeal is to the Quarter Sessions.

WHITE MARTAGON (Mrs. J. N.).—A similar flower was exhibited by Mr. G. F. Wilson at the Royal Horticultural Society on the 17th inst. He called it Martagon album.

BEGONIA LEAVES INSECT-EATEN (Mrs. L.).—Look for the marauder with the aid of a candle at night. The injury is probably caused by a night-feding weevil.

LAUREL LEAVES (M. W. Cork).—They are perforated by some weevil, not by the Acari you enclosed. We can only suggest placing a sheet beneath the bushes, shaking these and destroying the insects which fall upon it. The *Gloxinias* require more heat, and the *Capsicum* better culture. The deficiency we cannot surmise.

BRIAR STOCKS (Paddle).—Plant young shoots as early as possible, and leave the old Briars where they are. They would be grand stocks in two years' time, and quite fit for budding Teas on in one year. October is the best month for inserting them, and a single wild Briar will furnish often five or six shoots.—WILD SAVAGE.

STOCKS, WALLFLOWERS, AND CARNATIONS (Amateur).—You have manured them too liberally whilst they were young, so that they have produced leaves only. They are over-luxuriant.

PRIMULA SEEDLINGS (E. R.).—Pull off the seed skin which remains on the cotyledon leaves.

AIR-TIGHT VINERY (A. Boyle).—"OBSERVER" informs us that the Grapes grown in the air-tight vinery "are not thick-skinned, neither deficient in flavour or poor in colour. He also states that the building is cheaply constructed by having all the woodwork prepared at saw mills, as it is chiefly composed of grooved rafters. A pattern rafter is sent to the mills, where any quantity like it can be obtained at one-third less than if cut-out by hand.

BLACK HAMBURG GRAPES NOT COLOURING (J. D.).—The defect is probably caused by the crop being too large and the roots not being supplied with sufficient water and a little liquid manure.

CUCUMBERS WITHERING (J. H.).—It probably arises from defective root-action. Apply a little weak liquid manure and thin the fruit severely. You have allowed too many to remain on the plants.

SAVOYS AND BROCCOLIS BOLTING (Dan).—This and the clubbing was occasioned probably by the supply of water to the roots being deficient.

EARLY BEATRICE AND EARLY LOUISE PEACHES (E. D. L.).—They are medium-sized fruits about 2½ inches in diameter. They are not liable to crack if grown in a favourable temperature and moisture.

BANKSIAN ROSE NOT FLOWERING (H. J.).—Throw away your pruning knife and you will have a profusion of bloom in a year or two. At any rate avoid any attempt at scientific pruning in your treatment of this Rose, for it is upon that rough twiggy growth that the flowers appear in full abundance, and as this when left on has an unkempt untidy air, you have probably diligently removed it in the thinning-out process which you describe. In the south of France, where this Rose is left to ramble over arbours, old trees, or any rough surface, it is never pruned, and soon forms dense thickets, which are a perfect cloud of bloom in the flowering season.

SEEDLING PELARGONIUMS (C. Neilson).—You incur a fruitless expense in sending the flowers. The petals are shed, and we can only say they seem handsome, but not superior to many of the legions of varieties to be purchased at the florists.

ROSE (W. Wallace).—We believe it to be *Niphetos*. You must write to Mr. Pearson for the cutting you name.

DOUBLE TEN-WEEK STOCK (A Constant Reader).—The specimen is very good, and we have no doubt the robustness is due to the use of manure water. No one can identify a Rose from a single bloom, the varieties are a legion. Where properly supplied with manure and water *Chrysanthemums* are looking very well.

TULIP TREE (A. Lighton).—It is the *Liriodendron Tulipifera*, a hardy tree, native of North America. It is not uncommon. There is a fine specimen in Kensington Gardens.

ROSE LEAVES (M.P.).—The brown blotches on the leaves indicate that the roots have not had a sufficient supply of either manure or water, or both.

BEGONIAS (Inquirer).—The flowers are good but not superior to many others well known. The silver variegation of the leaves we do not think can be an improvement.

STRAWBERRIES (W. J. M.).—Dr. Hogg is superior to British Queen on some soils; three other excellent kinds are Sir C. Napier, La Grosse Sucrée, and Frogmore Late Pine. Waste neither time nor space upon barren Strawberry plant, but destroy those which were planted in 1875 and are still unfruitful, and replace them with runners taken from plants that are actually fruiting well now. Strawberries should be watered freely in dry weather, during the season of growth and fruiting.

HEATING AND PLANTING A VINERY (A. S.).—You deserve success, and we congratulate you on your industry in having made with your own hands during morning and evening hours a span-roofed vinery 20 feet long, 11 feet wide, and 11 feet high, finished so well as is shown in the sketch you have forwarded to us. We doubt, however, if you will have sufficient top ventilation during a hot summer; but you can easily supply the deficiency, if it is a deficiency, by removing, if required, a square of glass from each end of the house next the apex. We think your mode of making the house portable is good. Such a stove as the one to which you refer would not be sufficient to exclude frost from your house. With two of the stoves you would be safe, and you would not have any difficulty with the down draught. We do not approve of the earthenware flue. We have seen one formed 100 feet in length which had to be removed on account of the pipes cracking. If you can incur the expense of a boiler and hot-water pipes adopt that mode of heating; if not, try the stoves. Your "practical hot-water friend" will probably give you good advice. You can fix the pipes yourself with indiarubber

rings, and so render them portable. It is not imperative that you heat the house this year, or until you obtain plants as well as Vines. If your inside border is good, and you support the Vines well by giving sufficient water, your mode of planting five Vines on each side of the house would give you the quickest return of fruit; or, as the roof is not lengthy, three Vines on each side, taking up two canes from each, would probably answer as well. But as amateurs sometimes fail with Vines wholly in inside borders, we should also plant two Vines at the end where you say "the roots could grow outside as well as inside." If these Vines are found to thrive the better—which is probable if the natural soil of the garden is good—we should grow them on the extension system, removing the others as the space is required for the permanent canes. The supernumeraries—the inside Vines, would more than pay for their cost and keep if fairly well managed. Plant the permanent Vines at the corners of the house, and let them grow in a free upright position during the first season. In the winter cut them down to the base of the rafter—the corners of the house, or if very strong they may extend 2 feet from the ends, from whence the first upright cane must be taken, the terminal eye being also encouraged for extension, the cane which it forms being pruned in the winter near the point where you desire the next rod to issue. Continue that practice until your house is filled, training the rods of your permanent Vines between the supernumeraries, which should be at 3½ feet apart. The terminal shoots of your permanent Vines should be permitted to grow in an oblique direction during the summer, depressing the canes at the winter pruning. The subsidiary Vines need not be pruned so closely, your object with them being to obtain fruit as quickly as possible, but do not permit their foliage to shade the leaves of the extension Vines. Do not have the wires nearer to the glass than 16 inches. The best Grape for your purpose is the Black Hamburgh, but if you desire white Grapes you might plant a Vine each of Foster's Seeding and Buckland Sweetwater.

HEATING VINERY AND GREENHOUSE (—).—Unless your vinery is very wide and lofty you will not require pipes all round the house just to keep frost out. A 4-inch flow pipe from the north-west corner to the south-east corner, and a return pipe underneath the flow, conducting back to the boiler, will afford you security from frost. We do not see how you can arrange the pipes except by having a trench in the floor and a cast-iron grating for covering it. If the pipes were not considered objectionable if placed on the floor at the front of the west-end border and rockery, there is still the difficulty of the outer doorway at the west end of the house. You must either cut the cement floor and place the pipes in a trench as suggested, or submit to the inconvenience of their crossing the doorway and conducting them above ground as far as the dining-room door (not across it) and back to the boiler.

TRAINING PEAR TREES (J. E.).—We do not consider your plan a good one, for the simple reason that eventually when the tree reaches its limits of space an excess of vigour will soon be developed in the upper portion at the expense of the lower part. The very best method of training the Pear on walls and as espaliers is that form which was originated by the French, and by them termed *Palmette verrier*, and which is simply an improvement of the old horizontal espalier, each branch being trained horizontally for a certain distance, and then turned upwards and continued to the top, so that the end of every branch is upon a common level at the top instead of at the sides of the tree as used to be the case, thus securing that important object, an equal distribution of vigour in every part of the tree.

STRAWBERRIES AND SLEGS (S. E. W.).—Quicklime spread between the rows when the Strawberries are ripening is an effectual protection. It requires repeating if rain occurs. Strawberries, we may add, are seldom injured by slugs if cut straw—that is, straw cut into lengths of about an inch, is spread over the surface of the ground to keep the fruit clean. For the aphid mixture try the different strengths and use that you find most effectual. We find a quarter of a pound of quassia chips to four gallons of water sufficient. Do not omit the soft soap; it will not injure the Rose buds, and may be syringed off or removed by the first rainfall.

VEGETABLE MARROWS NOT SWELLING (A. M.).—The most general cause is want of moisture; but in your case we think over-rich soil, inducing undue luxuriance, is the most likely cause. Instead of cutting off any leaves we should thin out the shoots and allow the plants to grow as will, not limiting them as to space, and we think you will have fruit abundantly. Apply water only during dry hot weather.

MILDEW ON ROSES (Alfred).—Mildew, and aphides, and red fungus, and all other ills which Roses are liable to arise from check, and this may be caused either by severe weather, drought, or an exposed situation. Where Roses are in a good state of health and growing freely it is quite exceptional to see any of these drawbacks. In Mr. Baker's rosery at Heavitree are about four thousand Manetti Roses growing 3 feet high with the greatest luxuriance, and no signs of mildew or blight of any kind. The remedies for mildew are so numerous that it is a difficult matter to recommend any one. Try dusting the leaves with soot, leaving it there for a day and then washing it off. Soft soap can be applied with a brush, and will also answer your purpose.

BUDDING MANETTI STOCKS (Idem).—The stocks being in rows earthed-up like Potatoes, take a hoe or spud and remove the earth from the stock, so as to insert the bud as low as possible. When this is done proceed to cut the bud just the same as you do for the Briars, and make an incision as low down as you possibly can; the lower down the better, as the fewer will be the suckers. Indeed you should almost bud on the roots if possible, at any rate strive to insert the buds as low as you can. Only insert one bud in each stock. Choose the same side of the stock all down the line, and also select a place as free from knots or irregularities as you can find. Make the incision in the form of a T, and when the bud is safely in tie up well beyond each end of the bud with rough cotton or worsted. Ladies often use wool, and nurserymen bass or roffia or cotton. You must not replace the earth, but leave the bud showing, or rather the cotton, so that in the course of a week you can see whether the bud has taken or not. If it has not, bud the other side of the stock. Do not touch the Manetti shoots, but leave them to grow as luxuriantly as they will till the following spring, then remove the cotton and cut back the Manetti to the bud. The best time for budding the Manetti is after rain, and if you have no rain give the stocks a copious watering and you will find the bark run. August is the best time for budding Manettis. All the kinds you have named do well on the Manetti; in fact all Hybrid Perpetuals except La France, which, having some Tea blood, never does so well on this stock as on the Briar.

CLIPPING EVERGREENS (S.).—The evergreens being in good form, the best time to clip them is early in August, but the shears must only be applied to such subjects as Yew. Common and Portugal Laurel should only have irregularities of growth removed with a knife or scissors, the scissor being the most handy implement; and in cutting-in care must be taken to leave some

leaves of the current year's growth. If the evergreens are overgrown and require cutting-back severely the best time to perform the operation is during moist mild weather at the close of March or early in April, at which time you may cut them back to any extent, shortening any irregularities of growth in August.

TRANSPLANTING EVERGREENS (*Idem*).—Late in September if the weather is moist and until the middle of November, and from the middle of February until the middle of April, are the times we have been most successful with evergreen removals. Hemlock Spruce may be moved at the same time. It is a very graceful tree, but requiring shelter and a moist situation, doing fairly well in moderate shade.

KLEINIA REPENS.—"J. B." wishes to know where it can be obtained.

APPLYING LIQUID MANURE TO VINES (*J. W. L.*).—When the Grapes are swelling liquid manure does most good, and as a general rule that is the best time to give the border a thorough drenching with it; but if the drainage is defective all due caution must be taken not to overwater, or shanking will inevitably follow. As you manured the border last winter no doubt the rain water has conveyed much nutriment down to the roots; but as the crop is heavy do not hesitate to pour on sewage if the drainage is sound, for there can be no question that it will be beneficial to the Vines, promoting both the swelling of the fruit and a strong wood-growth for the next season. We congratulate you on your successful management of such old Vines.

BRIAR STOCKS FOR ROSES (*G. C. A.*).—Stocks of the Dog Rose should be procured in autumn, towards the month of November, for ordinary soils; but if to be planted in wet ground the spring is preferable. The most advantageous plants for stocks are those two or three years old, about the thickness of the thumb, the bark of which is either of a smooth grey or grey striped with green. The stock should be long, straight, and with a good root. Before planting, all the old decayed roots should be carefully trimmed off, as well as all superfluous knots or branches. If a saw is applied for this purpose the wounds should be closed up with the pruning knife and the cicatrises covered with grafting wax. The stock thus prepared of the height desired should be straight and smooth as a walking-stick. If planted in lines posts can be placed at intervals with a rail, to which each stock may be carefully attached by osier bands. This is the best mode of planting for a nursery ground.

FLAT STAGE AROUND GREENHOUSE (*Eve*).—The best description of stage for a greenhouse is one formed of laths 1½ inch wide and 1 inch thick, with one-inch space between the laths, nailed to cross pieces 3 inches by 2½, fixed 3 feet apart, one end let into the wall and the other end supported by wooden uprights 8 inches square, which should stand upon a brick or stone base slightly raised above the floor. The laths to be fixed widest side upward, and the cross pieces narrowmost; the whole to be dressed and have at least three coats of oil paint, to be thoroughly dry before the pots are placed upon the stage.

NAMES OF PLANTS (*Miss Dennis*).—*Catalpa syriacifolia*. (*R. C. C.*).—*Lonicera Ledebouri*. (*Student, Hadlow*).—We cannot name so many, nor from such imperfect specimens of weeds. (*Mrs. Holmes*).—We cannot name florists' varieties. (*Twelvemonths Subscriber*).—Your Fern is probably a species of *Acrostichum*. The Mock Orange is *Philadelphus coronarius*. (*H. N. C.*).—1, *Rhododendron ferrugineum*; 2, *Gentiana caucasicas*; 3, *G. acutifolia*; 4, *Gentiana sagittata*; 5, *Astrantia major*. (*J. W. C.*).—All forms of *Athyrium Filix-femina*. 1 and 2 appear to be the var. *Prizellae*. (*T. Perry*).—1, *Stachys sylvatica*; 2, *Centaurea nigra*; 3, *Prunella vulgaris*; 4, *Agrimonia Eupatorioides*; 5, *Hypericum pulchrum*; 6, *Crepis virens*. (*P. McDonald*).—Cannot name from specimen sent.

POULTRY, BEE, AND PIGEON CHRONICLE.

WEEDING.

It is time to begin. Probably many have been weeding their yards of wasters for some weeks past, and birds which evidently would never develop into good specimens have in many places been by now doubtless eaten. Well and good: such breeders work wisely, and by making room afford more scope and opportunity for the rest to thrive. There are, however, very many fanciers who never weed, who allow every bird they can breed to come to maturity. They cling to a false hope that a bad bird may in time make a good one, or that someone will give them 3s. or 4s. more than the table price of a bird, even though it may be a sooty-footed Dorking or a white-legged Ham-burgh, because it is reputed to be of a good strain. We beg fanciers in their own interests as well as those of the fancy in general to abstain from doing this. Annually we have a larger glut of useless birds in the market, and annually we find the prices for good specimens decrease; we do not mean of such birds as will win at Birmingham or the Palace, for those will probably always maintain their prices, but we allude to good specimens which would hold their own at country exhibitions. The rubbish we see at show after show in the sale classes, the few shillings we see charged for birds and eggs of well-known strains, the perfect trash we see at auction sale-rooms, all help to tell the story, and to show that hundreds of birds which would make wholesome and palatable food are allowed to accumulate, in the hope of selling them, until they have passed the time when they would have proved the most serviceable for home consumption. Those clinging to the hope by holding on to these wasters—badly marked, under-feathered, or faulty-clawed birds, that they may some day obtain a better market for them, do not surely realise what extra cost is entailed in the keep of those fowls. They literally eat their heads off; and when at last in a fit of despair they are sent by the owner to an auction sale the low prices they probably fetch cannot repay the price of the food that they have eaten, not to speak of the cost of carriage, entry fees, and baskets, and above all of the room they

have taken up at home which better birds should have had. This latter is a great point.

When yards are small or grass runs limited the smaller the number of birds that are retained the better will they be. Over-crowding means ruin to all. Underfeeding means the same; consequently how much better must a dozen birds progress in a small yard than a score in the same place. The breeder is indeed fortunate who has but few specimens under the mark. By careful breeding, however, after a time the number should of course be lessened, but there are very few good breeders who do not obtain some "weeds" every season. An amateur who has had any fair amount of experience should know what to kill and what to leave; and even if occasionally a mistake is made the surviving birds will be better for the extra accommodation and food. But mistakes like these seldom occur; and at any rate the veriest beginner can weed-out single-combed birds which should be double, or, *vice versa*, those with wrongly coloured legs and beaks or wry tails, and specimens with plumage which no moult can ever make right. After he has bred for a year or two his experience would be larger, and he could weed out many others which before in ignorance he allowed to live. There are plenty of beginners, we are sure, who buy the best birds they can obtain for money, who get some skilled person to mate them up for them, and yet who never come to the front in the way that they ought to do. We believe the reason is that they hatch too many for their accommodation and then do not weed them out enough. Such a plan may do very well where unlimited range can be given and the food can be supplied as liberally as it can be eaten, though even then the more the knife is used the better will the survivors be. There are, however, many who have only a piece of a garden or a tiny paddock at their disposal, but who wish to be winners and to breed exhibition chickens; were such to kill off with discretion as soon as the birds were fit to eat in any form one-half of all they bred, we feel sure they would do infinitely better with the remainder. We would not, of course, recommend amateurs to set to work slaying half their broods when they had reached a certain age just for the sake of reducing the number to make room for the others, as that would indeed be ridiculous; but when they have acquired the means of distinguishing between fair and positively indifferent birds, then they should never spare the latter.

No better time than the present is there to weed. In the interval of writing these lines we have been out to condemn two couples of chickens, and yet at many shows last year we saw worse birds than those ordered to death; but we are assured from experience and from the systematic way in which many great breeders set about it, that it is very much better for anyone who wants to establish or keep up a strain and make his poultry profitable to send out to the fancy, or allow visitors to inspect only half a score of well-conditioned and well-grown than two hundred indifferent birds. As we said before, now is the time to set to work, for most chickens by this time have come to the age when merit can be determined upon; and in all good faith we believe that those who weed freely now and in the weeks which are coming on will have eventually much to be grateful for, by obtaining better-grown specimens, and consequently better prizes or better prices.—W.

WHICH IS THE MOST PROFITABLE BREED OF FOWLS?

It is manifest that we must choose one of those breeds whose mission in life is apparently to produce eggs at their master's pleasure, and from whom human art and skill have taken away the natural desire of sitting. A tabulated form, in which is a scale of the merits and demerits of each breed, will probably show in the simplest manner an answer to the question. Take the following breeds as the representatives of the non-sitting class:—

	Egg-producing.	Hardiness.	Quality of Flesh.	Size of Egg.	Total.
Spanish.....	5 .. 2 ..	3 ..	1 ..	1 ..	9
Leghorns	2 .. 1 ..	3 ..	2 ..	2 ..	8
Hamburghs, Spangled ..	2 .. 2 ..	2 ..	2 ..	2 ..	8
" Pencilled ..	1 .. 3 ..	2 ..	3 ..	2 ..	9
" Black	2 .. 2 ..	1 ..	2 ..	2 ..	7
Minorcas	2 .. 1 ..	1 ..	1 ..	1 ..	5

There is so little difference in these six leading varieties of layers that there is no necessity for a wider variation of the scale in the above table. The figure 1 will represent the highest excellence in each characteristic, the figure 3 the lowest. Of course there is wide room for difference of opinion as to the merits of the various breeds specified, but the general experience of the writer is in accordance with the table—the Pencilled Ham-burgh ranking first as a layer, but last in size of the egg and in hardiness; the Spangled Ham-burgh being equal to the Black except in the quality of flesh; the Leghorn being the equal of the Spanish in this last characteristic; the Minorca scaling the highest in all points except that of laying, and being equal to the Leghorn in hardiness. All being unreliable and almost worthless as sitters, no comparison is made between

them in this respect. The Polish, being but indifferent layers in winter, as a rule—to which, however, there are many exceptions—have been omitted from the above list.—G. H. C. (in *Pet Stock Bulletin*).

CLECKHEATON SHOW OF POULTRY, &c.

THE annual Show took place at Cleckheaton on the 21st inst. in grounds much better adapted to the purpose than have been used by this Society previously; the entries in poultry, Pigeons, and Rabbits were 230, the poultry coming up least in numbers.

Game were but a moderate lot and correctly placed, as also the larger varieties of poultry, except that we thought pen 4 in *Brahmas* ought to have displaced some other. *Hamburghs* were good and correctly judged throughout, as also the *Bantams* in all classes, which were certainly about the best section; the rest of the poultry classes proving of no special interest.

Pigeons a better entry than poultry. Carriers were first on the list; the first a well-shown Black cock; the second not so good as pen 5 (Mawson), highly commended, which is much larger in neck and better in beak wattle. Pouters, first Blue and second Black, two good birds; and a Red highly commended. In Tumblers the winners were both Almonds; the first, a cock, was not nearly so good as the second hen, which is broader in skull, higher in stop, and altogether a better class of bird. Fantails were good and well placed. Dragons, the winners Blue; the first too flat on skull and fleshy-eyed; the second altogether a better bird and much harder in cere. In Jacobins also we considered the award a great mistake, the second leading in all Jacobin points, being larger in hood, chain, and feather generally than the first. Turbits, first Blue and second Red, and well selected, as also the Antwerps, which were very good in both Long and Short-faces.

In *Rabbits* were some good specimens, but the Lops were poor with the exception of the first, a Blue-and-white doe. Himalayans fair, the first a good one. In Silver-Greys, which was the best class, those noticed were a mere toss-up for position, as all were good. In the Variety class first was an Angora, second Grey Dutch, and third a Belgian Hare; but the best was a Silver Cream unnoticed, and the Belgian Hare should have been placed second, with the Angora third.

POULTRY.—*Game*.—Cock.—1, W. Rudd. 2, C. Fearney. *Black Red*.—1, H. C. Mason. 2, E. Hemingway. 3, W. Rudd. *Brown Red*.—1, W. Rudd. 2, W. Schofield. 3, J. W. Thorston. *Duckwing, Blue or Grey*.—1, W. J. Mason. 2, E. Kay. 3, W. Rudd. *Any other variety*.—1, J. F. Walton. 2, R. Walker. 3, J. E. Crofts. *DORRINGS*.—1, J. Walker. 2, W. H. King. *COCHIN-CHINA*.—1, J. Walker. 2, W. Brierley. 3, C. Sidgwick. *SPANISH*.—Black.—1, J. Powell. 2, J. Thresh. 3, J. Clark. *BRAHMA POOTRA*.—1, G. W. Henshall. 2, J. Walker. 3, H. Beldon. *HAMBURGHS*.—Gold or Silver-pencilled.—1, H. Beldon. 2 and 3, J. Ravensley. *Black*.—1, H. Beldon. 2, C. Sidgwick. 3, G. Moore. *Gold or Silver-pencilled*.—1, H. Beldon. 2, Fawcett & Anderson. 3 and 4, J. Ravensley. *GAME BANTAMS*.—Black Red or Brown Red.—1, E. Walton. 2, J. Sugden. 3, F. Holt. *Any other variety*.—1, E. Walton. 2, F. Holt. 3, I. Goodall. *BANTAMS*.—Any variety except *Game*.—1 and 3, J. F. Crowther. 2, E. Walton. *ANY OTHER VARIETY*.—1 and 3, H. Beldon. 2, A. & W. H. Silvester. *SELLING CLASS*.—1, J. Akeroyd. 2, G. Briggs. 3, J. Ravensley. *ANY VARIETY*.—*Chickens*.—1, C. Sidgwick. 2, E. Fritchard. 3, H. W. & H. King. *Ducks*.—*Aylesbury*.—1 and 2, J. Walker. *Donen*.—1, J. Walker. 2, W. H. Kothwell. 3, J. L. Harrison. *Any other variety*.—1, J. Trickett. 2, J. Walker. 3, A. & W. H. Silvester. *GEESSE*.—1, J. Walker. 2, H. Beldon. *TURKEYS*.—1, J. Walker. 2, G. Briggs. 3, W. E. Rowley.

PIGEONS.—*CARRIERS*.—1, E. Horner. 2, J. E. Crofts. *POUTERS*.—1, J. E. Crofts. 2, H. Beldon. *TUMBLERS*.—1 and 2, H. Yardley. *FANTAILS*.—1, H. Beldon. 2, J. F. Loversidge. *DORRINGS*.—1, E. Horner. 2, R. Wood. *JACOBINS*.—1, E. Horner. 2, J. Holt. *TURBITS*.—1, E. Wood. 2, E. Horner. *ANTWERPS*.—*Long-faced*.—1 and 2, E. Ravensley. *Short-faced*.—1 and 2, B. Ravensley. *SELLING CLASS*.—1, H. Beldon. 2, A. & W. H. Silvester.

RABBITS.—*LOP-EARED*.—*Buck or Doe*.—1 and 3, T. & E. J. Fell. 2, E. Pepper. *HIMALAYAN*.—*Buck or Doe*.—1, J. Robertshaw. 2, T. & E. J. Fell. *SILVER GREY*.—*Buck or Doe*.—1, H. E. Gilbert. 2, T. & E. J. Fell. *Any other variety*.—1, J. S. Switbank. *ANY OTHER VARIETY*.—*Buck or Doe*.—1, S. Buckley. 2, J. S. Switbank. 3, A. & W. H. Silvester.

JUDGES.—Mr. J. Dixon, Clayton; Mr. W. F. Entwistle, Wyke.

HUNTINGDON POULTRY SHOW.

THE Huntingdonshire Agricultural Society held their Show on the 18th inst., in Lord Sandwich's beautiful park close to Huntingdon.

The poultry Show was certainly above the average of shows at this time of year. Its chief feature was the *Dorkings*. There were four well-filled classes of this old English breed, the adults being in wonderful plumage for July. About some breeds there seems an ever-changing fashion of popularity, but *Dorkings* always hold their own, and several breeders, famous in other varieties, have lately told us that they were inclined to abandon them for *Dorkings*, disgusted with the trickery by which they were frequently beaten. The one-guinea prize for the best pen in the Show deservedly went to Mr. Parlett's grand pair of adult Dark *Dorkings*, birds of the true *Dorking* type and good all round. How the best pen in the Show could be other than the best *Dorkings* we could not understand, for this pair did not receive the *Dorking* cup. Mr. Peel's pen, second in this class, contained a magnificent hen. The first pair of *Dorking* chickens were not very large, but very white in feet. In the second pen was an immense pullet with sooty feet. The *Dorking* cup went to Mr. Peel's Dark cock first in this class, a broad bird but almost without tail; second was a Silver-Grey very pure in

colour, the Bath cup bird. The class for pairs of hens was a good one; the winners were nearly equal, but we thought rightly placed. The *Brahma* classes contained some individually good birds, but were as a whole poor. In the class for Dark cock and hen Mr. Lingwood was placed first, the cock being a grand bird of its owner's particular type; the hen combined good size with capital pencilling. The hen, too, in the second-prize pen was beautifully marked. Only one pair of *Lights* appeared, chickens, very forward and excellent in colour. Two single cocks were shown, first an immense Dark bird very silvery in hackle and saddle for the time of year; second a somewhat yellow *Light* bird. *Cochins* were fair, but not numerous. The cup went to the first pair of *Buffs*, the cock a good *Lemon Buff* bird, the hen well shaped but not large. The second pen contained a very Dark cock and a large hen not well feathered. In the other *Cochin* class poor *Whites* were first, grand-looking *Partridges* second. These birds were pulled down by some abnormal swelling of feet. *Game* were generally in very poor condition and plumage, even the representatives of the famed *Stowmarket* yards not looking at all themselves. Mr. Deacon's first *Black Reds* looked well for the time of year. The cup *Brown Red* cock was in very poor plumage. As usual now in the *Hamburgh* classes the *Golden-pencilled* were the most numerous, and best by far as a class. The cock in the first-prize pen was rich in colour and capital in some points, but disfigured by some white in the face. The cock in the second pen had a suspicious-looking comb. Dr. Snell's pair of *Silver-pencils* well deserved their cup. *Game Bantams* were a poor lot. Mr. Winwood's pair were the only birds with any *Game* style. In the *Variety Bantam* class moderate *Golden Sebrights* were first, neat *Black Rose-combed* second. One poor pen of *Spanish* alone appeared. In the *Variety* class *Crève-Cœurs* first, and good *Golden Polands* second.

Ducks were good classes. We were very pleased to see that the *Judge* went in for condition and not abnormal obesity, which so unfortunately often now carries the day. The cup went to fine *Rouens*. In the *Variety Duck* class *Black East Indians* and *White Call Ducks* won. The highly commended pair of *Black Ducks* were beautiful in colour, but far too large for the prevailing taste in this breed. *Turkeys* had good classes, and *Geese* very good. The cup went to a grand pair of *White Embden*, which looked really useful stock birds and not stuffed for show. In the classes for *Goslings* the *Grey* were decidedly ahead of the *White*.

Pigeons had five classes. In *Carrier Duns* were first, the cock a grand bird; good *Blacks* second. The *Pigeon* cup went to Pouters, capital pair of *Whites*; *Whites* were also second. *Almonds* carried off both prizes for Tumblers. *Antwerps* had a large and well-filled class. In the *Any other variety* class *Red Barbs* took the first place, and *Lahores* second. The latter are a large breed with very distinctive markings.

Mr. Tegetmeier officiated as Judge, and his awards appeared to give general satisfaction.

BEDFORD SHOW OF POULTRY, &c.

THIS Exhibition, which took place on the 19th inst., was a capital little meeting. There were about 260 pens, and the quality was on the whole excellent. The prize money has already been paid, which certainly is very praiseworthy, and we understand the catalogue with the awards was sent to every exhibitor, which is an admirable plan, and will do the Show more good than the expenditure in doing it will create loss.

Dorkings came first in the catalogue, when nine pens of all colours did battle for the two prizes. The two prize pens were both good and deserved their places. Mr. Cresswell sent two capital pens, and Mr. Allen also a good pair. *Cochins* followed; a pretty pen of *Whites* were first in their class, while the second prize was awarded to a very good pair of chickens, well grown and most promising. In the next class, which contained five pens, a good pair of *Partridge* came in first. *Game* had four classes, but only made thirteen pens. Mr. Matthews, however, pulled off the £5 5s. cup for the best pen in the Show with a smart pair of *Duckwings*. Many birds, however, appeared the worse for the wear and tear of the season; and in *Brown Reds* only one pen, which were of fair quality, appeared. *Spanish* made a good little lot of half a dozen pens; an extra second was awarded in this class. In the *Pencilled Hamburghs* a very pretty pen of *Gold*s were first; Messrs. Cresswell and Long also had good pens of the same colour. *Spangled Hamburghs* mustered thirteen pens, in which the quantity was superior to the quality. A mixed class of *Brahmas* came next, where Mr. Lingwood maintained his reputation by coming in a good first; second going to a pen of *Lights*, well shown. The *Variety* class numbered nine pens, where the quality was excellent, and the *Judge* awarded two extra third prizes. The first went to truly beautiful *Black Polands*; the hen a great beauty and the cock admirable in all points. Good *Crèves* came in second. *Black-breasted Game Bantams* only brought four pens, and the next class but two, one of which was placed out of competition

machines for making comb foundation are too costly for me, or I should very much like to have three or four intermediate between worker and drone size, and so aspire to eventually breed my worker bees as large as present drones. What a wonderful lot of flowers might then be brought under contribution to fill our supers! I commend the idea to those bee-keepers who have leisure and money to carry it out.—JOHN HUNTER, *Eaton Rise, Ealing.*

FEEDING SWARMS AND COMB-BUILDING.

As the present season has been unfavourable for bees in many parts of England, late swarms are not in a good condition for winter. No one can say what the weather may do for bees in August if they be taken to the moors. Strong hives have been known to gather from 50 lbs. to 60 lbs. each on the heather; in some few cases more than 60 lbs. in very fine seasons. But as a great number of English bee-keepers do not remove their hives to the heather, I deem it well to suggest that prompt and proper attention be given to the feeding of late swarms which are intended to be kept for stocks.

Idleness in a bee hive during the summer months is the mother of mischief. While bees have a disposition to build combs and multiply population it is a stroke of good policy to keep them pretty fully employed at this work. This can be done by artificial feeding in unfavourable weather. A few pounds of sugar made into syrup will be of far greater service to swarms now than it would be at a later period of the year, for every square inch of comb built now will yield a hundred bees (two sets of brood) by September. It is of very great importance to have swarm hives well filled with combs and brood now if strong stocks are wanted for another year. Later in the season bees are less inclined to build combs and multiply numbers. Artificial feeding then is more likely to cause the bees to elongate their cells, and thus thicken their combs for store room for winter food. If artificial treatment be necessary to prepare stocks for winter, the sooner it is resorted to the better for the reasons now given.

Late feeding is less productive of comb and brood, and is attended with greater risk. There is the risk of cold inclement weather destroying bees in fetching water for their young, and also of chilling the brood in the combs. By feeding swarms now they may be converted into valuable stock hives. Syrup well administered will cause the bees to recommence comb-building, and as comb-building progresses so will the population of hives. Six or eight combs well filled with brood in August will fill a hive full of young bees by the end of the month, making it a strong and eligible stock for another season. A young and energetic farmer said to me the other day that "manure is the honestest thing in the world; that money is honest, but manure is honest because it yields a larger return." I turn from this clever and successful farmer to the bee-keepers of England, to remind them that sugar properly given to bees is a good investment, and will in time yield a large return. Generous feeding in seasons of scarcity not only prevents disappointment and loss, but puts beginners on the high road to success.—A. PETTIGREW.

BEE-KEEPING.

LAST September I drove twenty-four hives and made them into twelve, and fed them to the weight of 25 lbs. to 35 lbs. This spring I drove six swarms; the other six I put bell-glasses on 9 inches across. One glass I have taken off with 10½ lbs. of honey in; three more I have are not quite sealed-up. The other two have partly filled their glass, and have left it by swarming; and ten or twelve stocks I fed, six I drove, and two swarmed, making twenty in all. Six I drove twenty-one days after swarming, the others I have left with glasses on; but I am very pleased to state that I found no young bees in any of my hives but one, and not many in that. Now, I should like to drive my twenty stocks the latter end of this month and feed them up, and then in September I shall be able to get some off of my neighbours. This year I mean driving one hundred stocks and feeding them up to fifty, for I can get plenty of bees by paying 1s. per hive. The worst job I have to do is to get the bees out of the glass.—W. H. ATTWOOD.

A SNAIL CONFINED IN WAX.—In a chapter on the ingenuity of bees I stated that I was not sure whether I had seen in my early days a dead snail confined in wax in one of my father's hives. About a fortnight ago I found a dead snail in one of my own hives, not confined but covered with wax. It was daubed over with wax and slightly sealed to the board on which it lay. I look on this fact as a confirmation of what some have said in illustration of the wonderful sagacity and ingenuity of bees.—A. PETTIGREW.

OUR LETTER BOX.

DRIVING BEES (J. H., Sussex).—If your object is to get a large harvest of honey this year you cannot do better than drive the bees from the old hive

and unite them to the second swarm, and feed them into a stock strong enough for winter, and drive the bees from the first swarm hive into the straw below it. This can be easily done, and you need not trouble yourself to find the queens. When the bees of the old hive are united to the second swarm one of the queens will be destroyed; it does not matter which, for both of them are young. The best time to unite the swarms will be about the end of August, when most of the brood of the hives will then be hatched. Your attention to feeding during the spring months has been followed by comparative success in the present season.

TREATMENT OF DRIVEN STOCK (S. W. Fenn).—You say that on the 14th of July you drove a swarm of May 25th which you found three parts full of brood, and you ask if you were to let it stand without any bees (old ones), whether "the young would come off all right and do good." They may perhaps do well enough, but it is a risky thing to do. It would have been much better had you put this hive, empty of old bees but full of young brood, in the place of some other strong hive in the middle of a fine day, shifting the strong hive to another stand some distance off. We would advise you not to drive your other swarm so late in the year, and in such a bad season too. If you have resolved to do it for some reason not stated you had better wait till the second week in August, and then feed both hives liberally; but do not treat the brood as you did before, if there should happen to be any, or you will certainly lose the hive. In such cases it is often a long time before the young bees find out their want of a queen, and when they set about repairing their loss there is often no suitable brood to work with. Not only so, much of the young brood perishes for want of attention from the nursing bees that have been removed, and the whole hive suffers from corrupting brood dead in the cells. Certainly no worse way of treating your bees could you have adopted.—B. & W.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.						Rain.
1877. July.	Baromet- er at 32° and Sea Level.	Hygromet- er.		Direction of Wind.	Temp of Soil at feet.	Shade Tem- perature.		Radiation Temperature.			
		Dry.	Wet.			Max.	Min.	In sun.	On grass.		
We. 18	29.99	deg.	deg.	S.W.	59.0	deg.	deg.	deg.	deg.	In.	
Th. 19	29.551	63.0	54.3	S.W.	60.1	69.0	52.6	121.0	49.9	—	
Fri. 20	29.932	60.8	51.0	W.	60.9	73.1	56.0	123.3	54.6	0.015	
Sat. 21	30.441	62.3	54.8	W.	61.0	72.0	49.4	121.0	44.3	—	
Sun. 22	29.323	62.6	57.6	S.W.	62.0	67.8	54.2	122.9	49.1	—	
Mo. 23	29.668	62.2	61.0	S.	61.9	71.3	58.3	102.8	53.8	0.496	
Tu. 24	29.584	63.4	57.3	S.	61.9	73.2	55.1	122.0	53.7	—	
Means	29.824	62.9	56.3		61.0	71.0	54.3	113.7	50.8	0.511	

REMARKS.

18th.—Windy and rather cold, but very bright all the forenoon; rather less so afterwards, but fine all day.
19th.—Fine but rather dull at 9 A.M.; slight shower at noon and again in the evening; a dull and almost sunless day.
20th.—Very fine morning, rather dull about 2 P.M., but as a whole a very fine day, and a starlit night.
21st.—Fine morning and a most beautiful day throughout.
22nd.—Rather grey and dull till noon; fine afternoon and evening, though looking stormlike at 8 P.M.; fine after.
23rd.—Dull morning, showery day, and wet night.
24th.—Not very bright early, but very fine after, and splendid evening.
The temperature of the week very like that of its predecessor, but weather beautifully dry and pleasant generally, only one really wet day.—G. J. SYMONS.

COVENT GARDEN MARKET.—JULY 25.

A VERY heavy supply of goods this week, and all making fair prices. The late rain has completely damaged the Cherry crop, samples from all parts of the country arriving in very bad condition. Strawberries are nearly over Currants plentiful; a good crop, especially Black.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	½ sieve	0	0	0	Melons.....	each	3	0	8
Apricots.....	dozen	1	6	3	Nectarines ..	dozen	6	0	20
Cherries.....	lb	0	3	1	Oranges.....	≈ 100	10	0	16
Chestnuts.....	bushel	0	0	0	Peaches.....	dozen	8	0	30
Currants.....	½ sieve	3	0	4	Pears, kitchen..	dozen	0	0	0
Black.....	½ sieve	4	0	5	dessert.....	dozen	0	0	0
Figs.....	dozen	3	0	12	Pine Apples...	lb.	2	0	5
Filberts.....	lb.	0	0	0	Plums.....	½ sieve	0	0	0
Cobs.....	lb	0	0	0	Raspberries...	lb.	0	6	1
Gooseberries ..	½ bushel	3	6	4	Strawberries..	lb.	0	6	1
Brussels Sprouts	lb.	2	0	8	Walnuts.....	bushel	5	0	8
Lemons.....	≈ 100	6	0	10	ditto.....	≈ 100	0	0	0

VEGETABLES.

		s.	d.	s.	d.		s.	d.	s.	d.	
Artichokes.....	dozen	3	0	6	0	Mushrooms.....	pottle	1	6	to 2	0
Asparagus.....	≈ 100	0	0	0	0	Mustard & Cress	punnet	0	2	0	4
Beans, Kidney..	≈ 100	0	6	1	0	Onions.....	bushel	0	0	0	0
Beet, Red.....	dozen	1	6	3	0	pickling.....	quart	0	4	0	6
Broccoli.....	bundle	0	9	1	6	Parsley.... doz.	bunches	2	0	0	0
Brussels Sprouts	½ sieve	0	0	0	0	Parsnips.....	dozen	0	0	0	0
Cabbage.....	dozen	1	0	2	0	Peas.....	quart	0	6	1	0
Carrots.....	bunch	0	9	1	3	Potatoes.....	bushel	2	6	4	6
Capsicums.....	≈ 100	1	6	2	0	Kidney.....	bushel	3	0	5	0
Caniflowers.....	dozen	2	0	4	0	Radishes.... doz.	bunches	1	0	1	6
Celery.....	bundle	1	6	2	0	Rhubarb.....	bundle	0	6	1	0
Coleworts doz.	bunches	2	0	4	0	Salsify.....	bundle	0	9	1	0
Cucumbers.....	each	0	6	1	0	Scorzonera..	bundle	1	0	0	0
Endive.....	dozen	1	0	2	0	Seakale.....	basket	0	0	0	0
Fennel.....	bushel	0	3	0	0	Shallots.....	lb.	0	8	0	6
Garlic.....	lb.	0	6	0	0	Spinach.....	bushel	2	6	4	0
Herbs.....	bunch	0	2	0	0	Turn-eps.....	bushel	0	9	1	6
Lettuce.....	dozen	1	0	2	0	Veg. Mar'ows..	each	0	4	0	6
Leeks.....	bunch	0	4	0	0						

WEEKLY CALENDAR.

Day of Month	Day of Week	AUGUST 2-8, 1877.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.							
2	Th	Rosendale Show.	75.3	50.9	61.1	4 27	7 45	10 7	1 38	23	5 58	214
3	F		74.9	50.6	62.8	4 29	7 43	10 34	2 58	24	5 54	215
4	S	Manchester and Otley Shows.	75.9	50.6	62.8	4 30	7 41	11 13	4 12	25	5 49	216
5	Sun	10 SUNDAY AFTER TRINITY.	74.5	50.9	62.7	4 32	7 40	morn.	5 24	26	5 43	217
6	M	Southampton Show closes.	73.2	50.8	62.0	4 38	7 38	0 11	6 20	27	5 37	218
7	Tu	Royal Horticultural Society—Fruit and Floral Com-	74.6	50.9	62.7	4 35	7 36	1 28	6 59	28	5 30	219
8	W	Winster (Derbyshire) Show. [mistress at 11 A.M.]	74.5	49.4	61.9	4 36	7 34	3 0	7 27	29	5 22	220

From observations taken near London during forty-three years, the average day temperature of the week is 74.5°; and its night temperature 50.6°.

REMINISCENCES OF ROSE SHOWS.



THE 23rd of July and a wet day. Roses out of doors existing and that is all—not blooming, nor yet, so far as I can see, growing; but alive and, let us hope, kicking under the ground. All the Rose shows over for the year; the great nurserymen hard at work budding; here and there a bloom of a Tea Rose to be seen struggling against the fog and rain.

Such is the state of things as I sit down to write on Roses. Not an inspiring scene, nor a bright and glorious prospect, nor exactly the kind of thing to inspire one to write glowingly and enthusiastically of our pets; but in spite of all I must try to give you a few reminiscences of the days that are gone—days spent happily in tented field and shire hall, or in noble palace of crystal; and if I fail to interest or please any of your readers, if never a smile illumines the face as they read my ravings, well, let them remember that I am but a Wyld Savage, and perhaps am “hipped” just now. If the wine proves to be corked or the olives bad, at least forgive me, for I have written very many accounts of shows and cannot always “fool it well.”

To begin with the year that is just over. Pardon, I mean of course the Rose season; but I get so in the way of looking upon everything in connection with Roses that to me 1877 is over. Looking back, then, over the last season and taking stock of the various shows and exhibitions, I once more have to record Mr. George Paul as the champion exhibitor of the year. Taking seventy-two distinct varieties as the head or champion class, and counting only the great metropolitan exhibitions, it will be found that Mr. Paul won the first prize at the Alexandra and at the National. He was beaten at the Crystal Palace, it is true, but that show was held at so early a date that hardly anyone was in, and Mr. May of Bedale, Yorkshire, who won, cut his blooms entirely from under glass. However, as Mr. George Paul neatly puts it, “We were beaten there, yes; but we went down to Leeds, just to show our friend that we were still alive, and there we turned the tables.” The chorus of disapprobation with which the schedule of the Crystal Palace was received was, and I hope will be found to be so to the Directors, a caution. Already a round robin is being prepared, stating that if another such schedule is sent out none of the leading exhibitors will show; and it is to be hoped that next year the Manager will retrace his steps and once more make his show what it used to be—the leading show of the season. This year there can be no question it was the worst.

Among amateurs Mr. Baker is still *facile princeps*. He was beaten, it is true, at the National for the head class, but he was first at the Alexandra in all the amateur classes in which he could compete, and at Hereford he took the first prize in the four leading classes, and at the National he was first for thirty-six, twelve trebles, and in a multitude of other classes.

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But Mr. Jowitt, besides winning the challenge cup and the prize of the year, has shown splendidly all the season through, and we must indeed take care in the west lest our champion is reduced to accept second honours next year. From the first show up to the very end of the season Mr. Jowitt was in splendid form. He was first at Sydenham on the 23rd of June, and he was first at the Aquarium for twenty-four (the leading class) on the 18th of July, and during the interval he showed sometimes at two shows a-day. He is a splendid grower.

Of all the curious places for staging Roses commend me to the Royal Aquarium, Westminster. I have set up my blooms at Clifton next to a wolf, who seemed to eye the proceedings with the greatest contempt. I have had parties asking me, “What’s o’clock?” till I was weary of answering; but all these companions were as nothing to those I met with at Westminster. “Just wire this Rose, will you?” I am saying to my man, when bang thump comes down a little girl from the very top of the dome into a net. “Well done! well done! but kick out your left leg a little more,” is the astonishing remark made by a great swell on the stage. We look up in amazement to see a younger member of the Zazel family mounting up to the top of the roof to repeat the feat, as if it were only crossing a room. “Bah!” said a great rosarian with a sign of disgust, looking at his Roses; “are we taking part in the pantomime of Beauty and the Beast?” “By no means,” said another great exhibitor, as he gently touches up a bloom; “this is Paradise and the Feri.” Then presently as we are judging, the infant Zazel dressed in her tights comes skipping with a rope all among the boxes, raising a most penetrating cloud of dust which settles on all Mr. Cranston’s best blooms. Then towards the close of the second day, when we went to remove our boxes and blooms (?), we found what I may best describe as *box et praterea nihil*, for every bloom had been—well, borrowed let us say. “Well,” said my man, as he found a stranger collecting a few Rose leaves, the gleanings of the harvest, “you are driven short.”

How amusing also is it at some exhibitions to hear amateurs extolling some novelty (?) which they believe that they and a few particular friends alone possess, and when we rush to look at it, find that if not as old as the hills it is not much younger than the United States. This year at Torquay, in the midst of all the bustle of staging, “Sir,” said an excited exhibitor to Mr. Curtis of Torquay, “let me show you a bloom better than all your Roses put together; one you have not got, I know. Here you are. There, what do you think of that?” “Monsieur Etienne Levet.” Then, on the other hand, how often do we meet with exhibitors who are far from pleased with what they see, and who lash themselves with fury without the slightest reason, as it seems to us. I remember at Bath when the Royal Horticultural Society held their provincial Show an exhibitor rushing all round the tent detailing in a loud voice his grievance. “Whatever is the matter?” I asked of Mr. George Paul. “The gentleman appears to be in distress about a waterpot,” was the

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reply. For all the to-do arose from someone having borrowed that necessary article for a few minutes.

And as judges, what various kind of treatment do we meet with from exhibitors and the public generally! The leading nurserymen look round when the judging of their exhibits is over. "A rather close thing between us and Cant; but I think you are right," remarks the champion on one occasion. "Nothing to find fault with to-day," says another giant. But go to some provincial show where some third-rate nurseryman stages a seventy-two and meets Mr. Cranston or Mr. Turner, and hear his remarks on the judging. I remember once at a show in Staffordshire being so abused that I felt very happy that I was not personally maltreated. "You call yourself a judge!" said a man from Nottingham, "and place me third! Why, when I uncovered my boxes this morning all the amateurs said I was first, and then I came in to the show and find you have placed me third. Why, a ghost of an amateur could see who was first if he rode round the room. Hole I know, and Pochin I know; but who — are you?"

Contrast this with the calmness of others who are content to take the second, or even the third or fourth place, or even to be left out in the cold altogether, when they know they have not disgraced themselves. I remember one year staging in every class at the Crystal Palace, and taking not a single prize. When my old man came home next day with the boxes I greeted him with, "Well, we have done nothing this time." "No, sir," said he quite cheerily; "no, and no one down our way has. D—— got ne'er a prize, and C—— did not either, not even for decorations."

It is not often that an amateur beats a nurseryman in the large classes. Sometimes in Teas or in twelve of a sort this happens; but very rarely in the forty-eight or seventy-two. Yet I remember Mr. Baker beating Mr. Keynes and others at Exeter for forty-eight, and now the Rev. Canon Hole has secured the greatest of victories over Mr. Cranston and two other nurserymen. I wish I had seen that fight, it must have been a grand one; but the Secretary of the Nottingham Show did not send me a schedule till the Show was over, and so I knew nothing of it. [Neither did he send us a schedule.—Eds.] As Mr. Cranston, from the way he showed at the Aquarium the day before, must have been in splendid bloom, this feat of Canon Hole's is a very great one, and I do not suppose that amid all the triumphs of his life there is any that he will value more highly, and much do I congratulate him on his great success. We in the west and south are so much earlier than our friends in the midland counties that we rarely meet at the shows. Even the 4th of July, the day the National show was held, was too early for Canon Hole, so that it was no small success on his part to obtain third honours there. Next year if a show is held in the north or midland counties I expect he will have it all his own way.

And now the Rose show season is over, and as I look back upon it I cannot but remember with gratitude how much brighter it has turned out than at one time appeared likely. At the preliminary meeting of the National Rose Society the Secretary gave a most gloomy account of show prospects. He told us that neither the Aquarium nor the Alexandra would have a show, and the Crystal Palace would reduce their prizes; but each Show was held, and the only one that appears to have succumbed is that of Birmingham. If next year the Royal Horticultural Society have a Rose show of their own, besides having one at their provincial meeting, and the National hold not only a London show but a country one as well; if Birmingham decides to give the public one more chance of supporting Rose shows, then next year we shall indeed have a feast which will even satisfy a—WYLD SATAGE.

STRAWBERRY CULTURE.

A SHORT time ago Mr. Douglas suggested that there were possibly some cultivators who doubted the soundness of the advice that has been given when it has been recommended to plant Strawberries annually. The advice may be and is perfectly right, but those who follow it must do so exactly, or failure will most likely result. Not, be it noted, because the advice has been wrong, but because it has not been fully and precisely carried out. When Strawberries are planted annually and good crops are produced the first year after the runners are planted it is of vital importance that good runners are obtained and planted early in good soil, and then, if proper cultural care is given to them, they will form crowns and produce crops as certainly as will plants which are grown in pots

and forced. It will not do to defer the planting of runners until September or October, and then plant them of the same small size as they were in July; such runners will not produce a good crop until the second year. If well-prepared ground is not ready early in August, and very strong and well-rooted runners are not also ready for planting at the same time, it is as well to plant later runners in nursery beds, removing them to their fruiting quarters as soon as they show signs of growth in the spring. Such plants will have a whole season of growth before them, and ought to produce a splendid crop the year following. But the more economical plan, and especially where the soil is rather light and the plants take hold of it quickly and grow freely, is to plant strong well-prepared runners in their fruiting quarters as early in August as possible. If they can be planted in July all the better, but they cannot always be obtained then, and especially during a rather late season like the present.

I have for some years had two gardens "under my eye;" the soil of one garden very light, the soil of the other very strong. Strawberries are grown in both of them, and most people who see them consider that they are grown well. Several years of experience have proved that the mode of procedure best for one garden is not the best for the other, which plainly proves that no one rule is applicable to all cases, and herein is the sequel of the doubts that Mr. Douglas referred to that his practice was not reliable. It is perfectly reliable if carried out properly and the conditions are favourable—that is, if really strong plants are really planted early, and the ground is sufficiently free for their speedy establishment and quick progress to maturity.

In my "light soil" garden the runners arrive at maturity the first season, and yield splendid crops within a year of being severed from the parent plants. They are planted if possible on ground from which the early Potatoes have been dug. If the runners have been layered in pots they are planted as recommended by Mr. Douglas in rows 2 feet apart, or rather more, and 18 inches between the plants; but if they have not been prepared in pots they are planted "a foot apart all ways." I have never been able to determine which plan produced the best crops, but by both modes they are as good as I can desire them. When the latter plan is adopted (and both plans are carried out every year) every alternate row is chopped up immediately after the first crop has been gathered, and the remaining rows remain one year longer and no more. When I say the alternate rows are removed immediately after the fruit has been gathered I mean what I say; that term as I employ it does not extend over a period of two or three months. The mode of preparing the plants in pots is perhaps the more certain, and a less number of runners are required, but the other plan is often the more convenient. It is satisfactory to know that both modes answer the purpose intended, and I adopt them simply because I have a fancy in every possible operation for having "two strings to my bow," and as a consequence I have found that I have sometimes "hit" with a given crop when my neighbours have "missed." A good general always preserves a line of retreat, and has his van well supported by reserves.

Previous to planting the soil is liberally manured and deeply dug. In addition to the manure fully 2 oza. of common salt are spread over each square yard, and the ground, being light, is made firm before planting. The plants are afterwards watered as required, and the surface of the bed is mulched with short manure, or, failing that, lawn mowings. The salt in the soil and the mulching on it are of much service in retaining the moisture. The first crop is nearly always better than the second; a third crop in such soil cannot be relied on.

In the other, the "heavy soil" garden, a different mode of culture is necessary. The plants in this garden, if planted in August, do not become established sufficiently quickly and make sufficient progress to produce anything like a full crop the following year; but when they are established they bear prodigiously and continue bearing satisfactorily for at the least three years, and if the crowns are thinned out good crops are produced by the same plants for five or six years. In this heavy-soil garden it is found advisable to prepare the plants by planting them in nursery beds early in September, placing them in their fruiting quarters as soon as growth commences in the spring. There is then no necessity for hurrying the ground into condition—indeed, heavy soil cannot be profitably hurried for any crop, but it is well prepared by being roughly dug and thrown into ridges, these ridges being broken as often as is convenient when they are crusted with frost.

The soil then becomes friable and, as it is locally termed, "mouldy" by the planting time arrives, and the plants become established the more quickly on account of the care that has been exercised in preparing the soil. In this strong and also good soil, where the plants continue fruitful for at least three years, it is found necessary to have the rows of Strawberries much wider apart than in the light-soil garden, where the plants are only allowed to remain two years at the longest. Where they grow luxuriantly—when they do start—and continue for three, four, or more years, I have found the best results by having the rows 3 feet apart. There is no waste of ground by that wide system of planting, for a fine crop of Lettuces is grown between the Strawberries the first year, and an equally good crop of winter Onions the second. After these—indeed before—the Strawberry crop is always worthy of the ground which the plants occupy, and if sold would give a better return than I think any other crop occupying the same area of ground in the garden.

Thus the mode of culture that is adopted by a given crop must be determined by circumstances. The plan of growing Strawberries in light soil—namely, planting early and rather closely and taking only one, or at the most two, crops is only suitable for that soil, and if it is tried on soil of a strong heavy nature disappointment will probably result. On the other hand, planting thinly in a light and dry soil and permitting the plants to occupy the same ground for several years is not the most profitable mode of culture in such a soil. In many gardens—and the plan is especially applicable to the small enclosures of amateurs—valuable crops of Strawberries may be produced by planting marginal lines of them by the sides of walks or borders. Such lines have a neat appearance, and usually yield fine crops of fruit. The plants when grown in that way in single rows need not be more than a foot apart, and they should be planted now.

As to sorts I find President the most profitable for light, and Sir Joseph Paxton for heavy soil. Vicomtesse Héricart de Thury is a good early variety for any soil. Dr. Hogg and British Queen are not yet surpassed for high quality, and Elton and Eleanor are the best late sorts.—W. S. P.

PACKING.—No. 2.

FLOWER BOXES are 24 inches by 16 outside, and 8 inches deep inside, for packing Roses and other flowers which will not bear much pressure. Stands are made to fit in the boxes in the following way:—A half-inch board about an eighth of an inch less in length and breadth than the inside of the box, and pierced at regular distances with twenty-four holes, is fixed to four legs 8 inches long in such a way that when placed in the box it will stand firmly about midway between the bottom and the lid, and the lid when nailed down will just touch the tops of the legs and hold all securely in its place. Roses must be selected according to the weather and the interval between gathering and using, but generally speaking they may be about half blown, and they must be cut while the dew is on them, either late in the evening or before five o'clock in the morning. It is better to cut them even three days before they are required for use, if done at the proper time of day and kept in a cool place, than to cut them in the hot sun for immediate use.

A boy carries one of the above stands to the plants, and a qualified lad or man selects the Roses and places two or three blooms in each hole, keeping half an inch clear all round the sides so that when placed in the box they cannot possibly rub against it. When filled the stand containing four to six dozen blooms is taken to the packing shed, examined, and any faulty blooms removed to be replaced with others more perfect. It is now turned-up edgewise on the bench with the stems of the flowers pointing to the operator, who takes hold of each bunch with his left hand, pulls it in close to the board, and with the right hand inserts a wedge of elder or other soft wood so firmly that the flowers cannot possibly shift till the wedge is withdrawn.

When all are firmly wedged in the stand is placed on the bench with the stalks of the flowers uppermost, and when examined underneath a clear space of half an inch at least must be seen between every flower and the bench. When it is seen that it is impossible for any flower to touch either the sides or the bottom of the box, the stand, which will fit any one of a number of boxes for this purpose, is placed in position with the flowers upside down. If it can move about at all in the box a wedge or two will make all safe. Any stalks which will

be likely to touch the lid are now shortened, and the space which is now about two-fifths of the box is filled carefully with long loose flowers, the stalks of the Roses sticking-up between them and preventing them rubbing and crushing. A piece of soft paper is placed over all, and the lid is nailed down and completed. We send seven to ten of such boxes as I have described at a time, and some of the spaces between the Rose stems are filled with moss or salading according to what is required.

Now, I suppose I shall be expected to say what kinds of Roses I find the best suited to my purpose. But although I pack in such large quantities, my experience with different kinds is rather limited, and necessarily so, it being expected that I should send one colour only at a time, and if possible only one kind. Well, then, how many plants do your readers suppose it would take of Charles Lefebvre or Capitaine Christy to furnish five hundred half-expanded blooms on a certain day? I should be afraid to guess, but I think I should have little room left for growing Cabbages. No, H.P.'s are not the Roses to cut in quantity. You may have, if your plants are large, 3 or 4 feet through, and on their own roots as mine are, on an average, perhaps, three blooms from six plants, but if you want quantity as well as fair quality you must go to the Bourbons and Teas.

Paul Verdier never has an imperfect flower, and is a model of a Rose for exhibition or any other purpose. It is nothing uncommon to cut a dozen perfect blooms at a time from one medium-sized plant, and its scent is delicious. It is rather late in flowering, and consequently all the more valuable to me. Coupe d'Hébé lacks a little in substance, but in colour and shape it is not yet beaten, while for quantity of good blooms it beats everything I have seen excepting the one named above. Its shape is formal without being stiff; some of the much-belauded newer Roses look too much as if they had been clipped into shape. Paul Ricant is not quite bright enough, but I was glad to use it extensively before I raised a stock of Paul Verdier.

Gloire de Dijon, of course, is the first and last of the season, and every bit of wall where nothing else will grow a Gloire de Dijon should be planted. It is, however, best on its own roots in a northern aspect, and I have nearly made up my mind that this is the only way to grow Tea Roses properly. They neither like much frost, much sun, nor much coddling-up. But I must leave the results of my experiments with this most beautiful class till another time, and since I have run away from my subject of packing, I must also leave the other items for a future paper.—WILLIAM TAYLOR.

WHOLE VERSUS CUT POTATOES FOR PLANTING. DISEASE.

You are quite right, Messrs. Editors; I did not advise the cutting of kidney Potatoes for the simple reason that I never cut them because they have not sufficiently numerous bold eyes, and I never recommend any practice that I do not adopt. I do not for a moment dispute the excellence of the crops of "A KITCHEN GARDENER" from such seed tubers as he has planted, for the sufficient reason that I have had many good crops from tubers of the same nature. The usefulness of such sets is admitted, but the prejudice against cut sets is not quite eradicated. On this point I think "A KITCHEN GARDENER" is not quite competent to speak with authority; at any rate his experience of this season alone does not enable him to do so, for he says, "every one of the tubers were planted whole." He has thus really had no means of comparison, and yet he decides in favour of whole tubers. Let him next year fairly try cut sets of large Potatoes, each set having at the least two bold eyes, and he will find such growth stronger than that from small seed tubers planted whole, and I strongly suspect that he will find the produce of greater value also.

But I do not regard the sets employed by "A KITCHEN GARDENER" as being small in the sense that I had in view; but I desired to denounce the tons of trash which are annually sold in the markets as seed, which seed is bought and planted, and trashy crops follow. It is by that bad practice in conjunction with another common practice which is equally reprehensible, of allowing the tubers to remain to grow into matted heaps before being planted, when the sprouts have to be rubbed off: such treatment impaired the constitution of the Potato, and rendered it additionally liable to disease. I do not suggest that "A KITCHEN GARDENER" adopts such a system; he

knows much better than to do so, or to plant trashy seed either, but there are hundreds who act thus unreasonably, and injure the value and jeopardise the condition of the prince of English root crops. It is because I have seen so much that is erroneous in principle adopted in the treatment, the abusive treatment, of seed Potatoes, that I have, and shall, and will, employ my voice and pen against it until I find a more rational plan established, and I ask with some confidence "A KITCHEN GARDENER'S" assistance in abolishing a custom which I believe he equally with myself regards as pernicious. I will not further dwell on the matter now, but will allude to what is at the present more important and reasonable—the avoidance of disease.

If dull, moist, and warm weather prevails an outbreak of the murrain is inevitable; indeed, it is on record that it has made its unwelcome appearance in more than one place. When the disease is once established nothing will destroy it, unless it is the new agent *salus*. Considering the source of this remedy, I think it ought to be tried by as many as have the means of doing so, and records of its efficacy or otherwise, especially not forgetting the "otherwise," be published.

My plan of preserving the crop is an old and simple one. I cannot conquer the disease, but I can avoid it. The plan is that which was suggested in your columns last week, a plan which I remember has been steadily recommended ever since I commenced reading your pages. It is the planting of early-ripening sorts, and digging the crops before they are attacked by the disease. Whenever I have done my duty in this respect I can truthfully say that I have never had a failure, and the disease, so far as regards my garden crops, has years ago lost its terrors.

As soon as the tubers have attained about their full size they are taken up, if fungus weather—that is, if several dull moist days threaten, whether the haulm has decayed or the tubers are ripe or not. It is a singular fact that they will ripen nearly as well out of the ground as in it; and if at the time of being taken up they are close and sad when cooked, and do not apparently contain a particle of starch, they will eventually become "mealy," and contain starch in abundance.

Whence it comes and how it comes is a question I am unable to answer—a question which is, perhaps, worth the notice of some of your scientific readers and correspondents. Potatoes when taken up thus early should be stored thinly, but not dried in the sun. The place, indeed, cannot be too shady provided it is tolerably dry.

But all cultivators cannot find time for digging their crops and storing their produce thinly just at a critical time. In that case, as you suggested last week, the haulm may be "pulled off, not cut." No doubt many growers will smile at this recommendation; they have tried this practice and failed to save their crop. But I think I have as good grounds to smile at their failure as they have at the advice given concerning it. When the practice fails it is the fault of the operators, who have erred in their judgment as to the time of removing the haulm, and by their tardy movements and indecisive action have suffered the enemy to steal a march on them, and which has thus rendered their efforts of no avail. The haulm must be removed before the disease strikes the crop. If the work of either taking up the tubers or removing the haulm is deferred one day too long all may be lost. If the haulm is removed in time—that is, before the disease appears, the tubers beneath the surface are perfectly safe, let the weather be what it may, and the murrain rage with all the virulence of which it is capable. At least I know that is the case in the district and in the soil where I have practised for several years, and I presume that the murrain has no geographical fancies.

With late varieties of Potatoes I have not always, indeed seldom in years of great disease, been able to save the crop. To dig such crops as Paterson's Victoria in the Potato-growing districts of Yorkshire and the north-west corner of Lincolnshire, where hundreds of acres of Potatoes are grown, before the disease is established, is to dig up the crops before the tubers have attained to a useable or marketable size, for such a variety as Paterson's Victoria, for instance, does not form tubers so quickly, or they do not attain to a sufficient size so speedily in those districts as they do in Sussex under Mr. Luckhurst's management. If they did I should do as he does—dig them up whether the haulm was green or not, or whether every tuber slipped its jackets during the process of removal. If they have attained to a good size that is sufficient; the question of ripening may be safely left to take care of itself,

provided—which is the real difficulty with many—that shelter is provided, or can be improvised, where the tubers can be dried gradually and stored thinly.

Sufficient evidence has been forthcoming that Mr. Luckhurst preserves his main as well as his early crops by digging them when the haulm is still green, and before the skin of the tubers is "set," but I am much afraid the plan is only applicable to the southern districts, where not half so many Potatoes are grown as in the north. If your able Sussex correspondent can tell us northerners how we can surmount our difficulties—namely, late swelling of the tubers and a lack of convenience for storing them thinly, he will deserve well of his country, inasmuch as he will be the means of saving from destruction not a few sacks merely but many tons of the country's food.—A NORTHERN GARDENER.

ROSES IN POTS.—No. 2.

SMALL plants for decorative purposes, such as have been frequently seen and admired at many exhibitions during the present season, ought, I submit, to be much more commonly seen than they are in private gardens. These small but useful plants are obtained in the following way:—As early as they can be lifted in the autumn from the open ground they are potted in 6 or 8-inch pots, shortening the strong coarse roots if any, so that the plant can be placed in the centre of the pot. The tops are also shortened a trifle at the same time. The pots are then placed close together on a bed in the open ground, when some cocoa-nut fibre is thrown around and between them, and slightly covering the surface of the soil in the pots. This prevents the frost from entering the soil, breaking the pots, and injuring the roots. The plants remain thus plunged the whole of the winter. The rains falling during the autumn are generally sufficient to excite root-action, but should the weather prove very dry sprinkling overhead becomes necessary, but nature generally provides all the water required until the following spring. At the usual pruning time of outdoor Roses, which is as a rule the first two weeks of March, the potted plants are cut hard back to two or three outward eyes, and placed in a sheltered nook to break and perfect their growths and bloom. The blooms on these plants are not as a rule so fine as those produced by longer-established plants, but are very effective. This is a very simple way of procuring plants, but much time will be saved if established plants are purchased.

Plants established in pots over twelve months can be readily purchased; and, compared with the cost of most plants, Roses in pots are very cheap indeed. Having given your order for the quantity chosen it may be well to leave varieties to the sellers, as they are men of great experience, and would send only good sorts that would succeed well in pots. After receiving them they should be repotted. The largest and the strongest plants will require larger pots, and smaller or weakly plants may be returned to the same sized pots.

Roses, especially Hybrid Perpetuals, are fonder of strong yellow loam than almost any other plant. Teas should have a trifle lighter soil, and if the plants are received early in the summer plunge the pots up to the rims in short manure, and if a little manure is placed over the top of the soil so much the better. The plants will root freely, and by the autumn they should be as thickly rooted as good Strawberries in pots. According to the summer's growth depends the success of next spring's bloom. They must be watered as required during dry weather, and by the autumn they ought to have well-ripened wood. This will be found by the lower leaves turning brown and falling off, when they should be removed to some place of shelter from the heavy autumnal rains; if no place at hand turn each pot on its side. I place mine in cold pits and frames and give all air that is possible, only sheltering from heavy rains.—J. W. M.

THE AURICULA APHIS.

I REGRET to say, that notwithstanding all the care that I have taken—the using of entirely new compost, the potting of every plant myself, carefully washing any that seemed in the least degree affected—this pest has again appeared in my collection. As yet I have only examined one frame, and found three plants infested by it: oddly enough they were some of the healthiest plants in the frame. I enclose a portion of the root with one of the aphids on it. When found it was almost entirely enveloped in a woolly covering, but this has come off

I have of course isolated the plants, and shall forthwith examine the remainder of my collection. Happily they are not the best sorts; so as Mr. Worthington Smith says he believes his salus would finish them off I shall, instead of repotting now, try it, and if it does not cure them I can but repot later on. You can readily imagine what consternation this re-appearance has caused me. However, I have the advantage this year of knowing it in time, and to be forewarned is forearmed. —D., Deal.

CULTURE OF ZONAL PELARGONIUMS IN POTS.

At the summer show held at Wimbledon for three or four years past visitors have been particularly impressed with the well-grown examples of zonal Pelargoniums exhibited by Mr. Roser, gardener to A. Shaw, Esq., Park House, Wimbledon Park. A few days since I had the pleasure of seeing these at their own home, and a finer lot I have never seen before. None of that flat cart-wheel training, which is contrary to all laws of Nature, is practised, but medium-sized sturdy plants are grown in 6-inch pots with extraordinary and well-developed foliage, and fifteen to seventeen large and massive trusses of bloom, such trusses which it would be difficult to excel. The plants, Mr. Roser stated, were only struck last July. I counted the number of pips in a truss of a few varieties. The first truss contained sixty-six fully developed pips and thirty-six more to expand; a second had 103 expanded blooms with twenty-six more to perfect themselves; the variety was the Rev. A. Atkinson. The third truss was Mrs. Tate, a very pleasing pink, on which were 120 pips nearly all fully expanded. These heads of bloom were fully 6 inches in diameter at the bottom, and measuring from the bottom row on the one side to the same row on the other they measured just 10 inches over. They were truly superb, and as decorative plants grown in the ordinary bush-like form they are not to be surpassed by any summer occupants of our greenhouses. I was so pleased with them that I asked Mr. Roser to describe his practice for the readers of the Journal, and the following is the practice adopted by Mr. Roser as described by him.

About the middle of July, or as early after that period as possible, cuttings are taken off in the ordinary way and struck in the open ground, where they remain until they become well rooted, after which they are lifted carefully and potted in 60-sized pots, placing them in a cold frame or pit near the glass, drawing off the lights on all favourable opportunities, taking great care never to allow them to become saturated with water. About the middle of October they are placed on shelves near the glass in a larger structure, allowing them plenty of air on all favourable occasions, and between then and March only just water enough given to keep them alive. Early in March they are shifted into their flowering pots; the size employed the first year is 6 inches. After potting is completed they are again placed on the shelves until the second or third week in April, when they are plunged in ashes in a frame, the lights being drawn off during warm showers and other favourable times, and under this treatment the plants make rapid growth. All the flower buds are pinched off until the pots become full of roots—indeed, until within about six or seven weeks before the plants are wanted for exhibition purposes or for home decoration. At this time the trusses of bloom that are then throwing up are left, and now we arrive at the secret of success. In order to obtain these gorgeous as well as massive trusses the points of all growing shoots are taken off with a sharp penknife immediately above each truss of bloom, and the strength of the plant goes to swell the size of truss as well as the individual blooms. From this period the plants are fed with stimulants two or three times a-week, and with clean water as often as it is necessary to water them.

Zonal Pelargoniums, Mr. Roser says, should be grown from the time of inserting the cuttings until their blooming period in as light and airy a position as possible, in order that the wood may become very firm and matured, without which it is impossible to expect substantial trusses. After a fair trial with an extensive collection the following twenty-four varieties are found the most effective. The varieties raised by Mr. George, Putney, which have massive trusses, large pips, and the flowers on the truss remaining until the whole are fully developed, are Par Excellence (very large pipe), A. F. Barron, Terence, Enchantress, Lord Mayo, Mrs. J. George, Seraph, The Shah, Salamander, and Rose Unique; and those of Mr. Pearson's raising having the same qualities are Arthur Rogers, Corsair, Harrie Helen, F. R. Clifton, Col. Wright, Lady Sheffield, Mrs.

Turner, Mrs. Tate, Matilda, Rev. A. Atkinson, Chas. Burrows, and Col. Holden. Rose of Allandale, raised by Dr. Denny, and White Clipper, raised by Mr. Must, complete the number specified.

The plants continue in bloom for nearly two months. As the present is the time for inserting cuttings or procuring plants, a record of Mr. Roser's practice is seasonable.—AN EXHIBITOR.

AUTUMN CULTIVATION OF SALADS.

LETTUCE.—It is not always in the hottest days in summer that cool crisp Lettuces are most wanted. In very many places they are in greater demand from now until the new year than at any other time of the season. In spring, when every inch of ground in small gardens is rigidly utilised for the principal kinds of vegetables, the Lettuces are often planted in all sorts of unsuitable positions; but now, when many early Potatoes are lifted and other things cleared off from borders and such-like choice places, the Lettuce should have the best of these. Ground from which the Potatoes have been recently dug answers well for Lettuce. If plenty of manure was put in when the Potatoes were planted it will not be necessary to add more now, but the ground must be dug over and made fine and level on the surface.

We generally make it a point to sow Lettuce once a fortnight. This keeps up an excellent succession. Large or small patches may be sown according to demand. It is about ten weeks from the time the seed is sown until the plants are fit for use. Those sown about the beginning of August will come in by the end of September. From then onwards is when we want an immense quantity, and I fancy many others do the same. When the soil is very dry it is a great advantage to sow the seeds immediately the ground is turned over. The surface is moist then and in much better condition for germinating the seed quickly than when the surface is dried up. Do not sow the seed in close patches in beds and then transplant, but place it at once where the plants have to grow. Draw the drills 12 inches to 15 inches apart and 1½ inch deep. Drop the seed into these drills in patches from five to eight seeds in each. The Cabbage varieties may be sown 8 inches apart and the Cos 10 inches or 12 inches. It takes less seed to sow them in that way than sowing the whole length of the drill, and as five or six plants come up in each patch there is plenty for thinning-out and transplanting.

Sow three times in August, and the same number of times in September. The plants from the last sowing may not grow quickly, but they will become of use in the spring. The August sowings are the most useful in autumn. As soon as the first are large enough to transplant this should be done, as they will come in a few days later than those left to form the crop. The best situation for Lettuces in autumn is the most sheltered from frost and the most exposed to the sun. Frequent surface hoeings never fail to keep down weeds and impart vigour to the plants.

In wet autumns I have sometimes found it necessary to lift many of the Lettuces in October when they were nearly fully grown and plant them in frames as close as they would stand, and cover them over with sashes in unfavourable times. I have also potted some of them before placing them in frames, but this plan will not pay for the labour and space. The best Cabbage variety for standing the winter is the Hardy Hammer-smith. Amongst the Cos varieties I have a strong preference for the Black-seeded Bath.

ENDIVE.—The cultivation of this does not differ materially from that of the Lettuce. It is mostly grown for autumn use. The principal crop of it should be in by the first or second week in August. We sow both our Lettuce and Endive together on the same border and in exactly the same manner. They come up about the same time, but the Endive is a little later than the Lettuce in becoming ready. It bears transplanting well and snails do not seem to relish it. On rich soil the plants often spread out to a considerable extent, and a distance of 12 inches to 15 inches is not too far to grow them apart. In hot weather the Endive is far more liable to "bolt" than Lettuce, consequently a thorough watering now and again is never labour lost. Those coming to maturity in August and September may be tied-up to blanch the centre; but when there is much rain and snow they soon rot if tied-up, and then the best way to blanch them is either to lay thin pieces of deal over them or lift the plants and lay them in by the roots in a dark Mushroom house. I only recommend two sorts, White Batavian and Green Curled.

RADISHES.—These are always in as great a demand as Lettuces. Their cultivation is even more simple, at least they do not take up so much ground or labour. The soil for them must be open and rich. Those sown during August may still have a shaded position assigned them. After trying several ways of sowing the seed I adhere strictly now to making drills about 1 inch deep and 12 inches wide, and leave about 6 inches between each of these wide rows to step between for drawing the Radishes. In a narrow border where they can be reached from the walk this plan is unnecessary, and the seed may be sown broadcast. It should never be sown very thickly. The plants are close enough when they come up 1 inch apart. They do not all swell at one time. By pulling the largest out as they are ready the smaller are given more room. After opening the drills if the soil is dry water it well before sowing the seed. Those sown in September and October must either be placed in an exceptional sheltered position or in frames. The latter are much to be preferred. Melons and Cucumbers are often cleared out of frames then; often neither the frames nor the manure are wanted until the spring, and this is the very place to grow Radishes. Pull the old Melon or Cucumber plants up. Leave the soil; add a barrowload or two of leaf soil, of light dung, and mix it up with this old stuff. Give the whole a good watering, and then cover the seed lightly. Do not put on the sashes until it is necessary to do so. The longer and the more they can be kept off the better, as their being on when not actually needed only makes the plants tender. A frame sown early in November will give supplies until Christmas and the new year. Dry soil or poor soil causes Radishes to run to seed quickly at all times, and before doing this they are hot and poor in flavour. Turnip Radishes swell best in the short days; and then sow Red Turnip and China Rose.

MUSTARD AND CRESS.—These are simply grown. They may be sown in any corner of the garden, either in the sun or shade. In August and September we sow a few short rows every ten days on a little border in light rich soil. It is watered immediately it is sown, and in sunny weather a mat is laid over it for two days after sowing. In October and throughout the winter we never sow out of doors nor in a frame either. Half a dozen boxes 2 feet long and 1 foot wide and 3 inches deep are what we use. Two of these are filled at the beginning of every week. The seed is just spread on the surface of the soil, watered, and placed in a house with a temperature of 50°. The plants grow quickly there, and as soon as cut the box is emptied, filled with fresh soil, sown, and put back again. This is the cheapest way of growing Mustard and Cress in winter that I have tried.—A KITCHEN GARDENER.

ROSE MDLLE. MARIE FINGER.

I AGREE with Mr. Beachey that there is a distinct difference even in colour between Mdlle. Marie Finger and Mdlle. Eugénie Verdier. I have repeatedly seen them exhibited in the same stands when "distinct varieties" have been specified, and I have never known them to have been disqualified. As I could not speak of them except as growing in light soil, where there is a clear difference in colour, I wrote to a great grower of Roses on heavy soil, one who has grown as many prize Roses as probably any other rosarian, and his reply is as follows:—

"Mdlle. Marie Finger is two shades darker; the wood is also darker and has more spines than Mdlle. Eugénie Verdier, particularly at the base of the flower. They are distinct.

"With reference to Maurice Bernardin, Exposition de Brie, and Ferdinand de Lesseps, although somewhat alike they differ in their respective time of flowering. This year Exposition de Brie flowered first. Ferdinand de Lesseps is the brightest, and Maurice Bernardin is the darkest of the three. Though very valuable in a large collection they are not all required in a small one."

This will give "WYLD SAVAGE" a portion of the information at least that he requested from "A HEREFORDSHIRE INCUMBENT."
—A CIVILISED NATIVE.

ZINC LABELS.

"A TYRO, Co. Down," wishes to know if anyone has observed that the shoots on which zinc labels are tied die. I have for a number of years observed this effect, and the cause is that the shoot that has the zinc bound round it is 5° colder in frosty weather than the other part of the Rose tree; likewise in summer weather the shoot is from 5° to 7° hotter than the

other part of the Rose tree. In a Cucumber house provided with iron and zinc rods the Cucumbers died away wherever they touched rods of zinc or iron; so I had the zinc taken away and had some American deal sawed up in strips and nailed to the rafters, and the crop has never failed since.

Mr. Hinton is quite right in saying that Rose Abel Grand does well on its own roots. It has with me; and I will add that Maréchal Niel, Devoniensis, and Lamarque do better with them on their own roots than when budded on other stocks.—W. G., Gardener, Lynwood, Hants.

GALLOWAY ROSE SHOW.—JULY 17TH.

THERE is a class of teachers in the present day who run down anything like enthusiasm. Politics, religion, the affairs of everyday life, must all be regulated by the rule of thumb. Cold and deliberate reasoning is to enter into everything, and nothing of sentiment or poetry to be dreamt of. But what a dull world it would be without sentiment! How slowly we should move without enthusiasm! and how much does every successful undertaking owe to the enthusiastic rider of a hobby. Here in the far south-west of Scotland—in a country beautiful in its own style of beauty, but to all appearance the most unsuited for the Rose—is a flourishing Society, so flourishing that it attracts by its schedule some of our largest English growers, and so well supported that its balance-sheet shows no deficit; and I think everyone who exhibits or knows anything about it will say that not merely the starting of the Society, but its maintenance throughout, is due to the hearty enthusiasm of the Rev. G. B. W. Mackenzie of All Saints, Newton Stewart. And again, although under trying circumstances he has to record a success—the season, so backward and so unpropitious everywhere, has been especially so for Scotland—and it showed no little zeal and success in Rose culture that at the very time that the southern growers were meeting at the Aquarium, those in the far north could come together in friendly rivalry at Newton Stewart.

The Show was held, as last year, in the Victoria Hall, a very suitable room with one exception, that the roof lights threw the sun down too much on one table, a defect that might be remedied by tacking some light material over them. The tables were arranged lengthways and were well filled. The chief attraction was no doubt the two stands exhibited by Mr. Cant of Colchester and Mr. George Paul of Cheshunt, who took first and second prizes in the order named, the third prize going to Messrs. Dickson & Co. of Newtownards, Co. Down, Ireland; while in twelve Teas the order was reversed, Mr. Paul taking first and Mr. Cant second, Messrs. Dickson being still third. It will be needless to particularise the blooms in these stands, many of the old varieties, such as Général Jacqueminot, Charles Lefebvre, Comtesse d'Oxford, Duke of Edinburgh, Exposition de Brie, Mdle. Eugénie Verdier, John Hopper, Jules Margottin, La France, Marie Baumann, François Michelon, &c., being shown, together with some of the newer sorts—Marguerite de Brassac, an improved Charles Lefebvre; Madame Prosper Langier, Mdle. Marie Finger, Duke of Connaught (shown very fine by Messrs. Dickson), Prince Arthur (Mr. Cant's very fine seedling), Reynolds Hole, Jean Liabaud, very dark; Rev. J. B. M. Camm, Royal Standard, Emily Laxton, very fine; and Thomas Mills, which seems excellently suited for this locality. Whilst amongst Teas lovely blooms of Comtesse de Nadaillac, Homère, La Boule d'Or, Maréchal Niel, Monsieur Furtado, Souvenir de Paul Neron, Cheshunt Hybrid, and others were exhibited in fine condition.

The amateurs' classes bore unmistakeable proof of the backwardness of the season and the inclemency of the few days previous; but some of the stands were very creditable, especially those of Mr. Lewin, Mr. McMorren, and Mr. McKenzie. There was one class, however, to which exception must be taken, that of Roses in pots. We are accustomed to see these, except in very few cases, very indifferently done by amateurs, even what may be called their proper season; it was hardly to be expected, then, that in the third week in July they would be very creditable, but it seemed to me a great waste of money to bestow a prize of £5 on six plants, not one of which had a really exhibition Rose on it, a remark which applies to the other two exhibits as well; and I would suggest that for the future this class be altogether withdrawn, or else that a prize one-fifth in value be given to it, and the balance added to the prizes for cut Roses. One very interesting feature of the Show was the fact of cottagers competing for prizes in cut Roses. There can be no doubt that the success of the Society has encouraged several in the neighbourhood to attempt their growth, and a more healthy sign of good results cannot be recorded. After the Show a goodly number of exhibitors and friends (forty) met together at dinner, under the presidency of Sir Herbert Maxwell, Bart., of Monreith, a well-known scientific botanist and a great lover of herbaceous plants, some cut blooms of which he exhibited at the Show, and all passed off in the most excellent

spirit. I can say that in common with my friends Messrs. Paul & Cant we have to express our grateful recollections for much warm-hearted hospitality and kindness.—D., *Deal*.

ARTIFICIAL FERTILISERS.

I MUST disclaim the compliments paid by "A RETIRED GARDENER" to what he calls my "science," if they are meant to imply that my criticism on his practice was not founded on practice also. The fact is, we are both agreed that certain manures are useful. He cites his practice, in which enormous quantities were followed by good crops; I can cite my own, in which much smaller quantities have given equally good results, and I have confirmed that by citing also the practical experiments of Mr. Lawes, extending now over twenty years, in which the results obtained by different quantities have been most carefully compared.

"A RETIRED GARDENER" urges, however, that I have overstated the amount of guano he applied, because his rows of Peas were 5 feet apart; but I presume if he grew anything (which certainly a market gardener would do) between the rows it would have been manured in the same proportion; and I understood also that he applied the same quantities to Carrots, Onions, &c., which were, I imagine, grown closely over the ground allotted to them. I took his own figures, and assumed that they were intended to apply to full crops as well as to half crops. Next "A RETIRED GARDENER" argues that to stint manure is to waste it, and he cites the contrast between a neighbouring farm and his own garden in a droughty year; but to make the contrast accurate between the two systems of manuring the farm ought to have had the same watering for at least half as much as the garden, which I take for granted it did not. I fully admit that garden crops will bear and profit by heavier doses than field crops, and for this reason I assigned to the garden double the heaviest dose that a farmer would give to his land. Instead of recommending 3 cwt. of guano, as "A RETIRED GARDENER" seems to imply I did, merely because I said it was a common farm top-dressing, I expressly recommended for the garden a proportion which would equal 14 cwt. per acre. "A RETIRED GARDENER" adduces the heavy manuring and heavy crops of market gardeners, and I need not say that I admire their practice and its results; but these heavy manurings are almost entirely composed of stable litter with occasionally a small mixture of cow and pig dung, and we are discussing guano and nitrate of soda. The difference is this—that dung decomposes very slowly and is not available for plant food till decomposed, while a great deal of guano and the whole of nitrate of soda is instantly soluble, and is taken up into the plants as fast as their roots can absorb the water in which it is dissolved; hence dung produces an effect extending over many seasons, while the artificial manures are practically exhausted in one. Nor does even a market gardener succeed in growing any one crop to heavier weight than a single crop of roots on a farm. The difference is that he makes crop closely follow crop, and that his crops sell at higher prices; but no market gardener would ever dream of applying to any crop a dressing of a ton of guano per week to an acre!

"A RETIRED GARDENER" in truth gives up his case as to quantities when he says not only that half the dressing may be pure water, but that in a wet season he would apply the artificial manure only once or twice, while in a dry season he would apply it eight times. It is clear that if he grows crops that are "luxuriant, full, profitable," with one or two doses of manure, the extra six must be simply wasted. They were wasted, and did not in his case poison the plants, only because the water given was also so excessive. A soil from which the evaporation is checked by mulching, and which is therefore kept tolerably moist, cannot possibly absorb 2 inches of water poured on its surface. At least one-half of the water will drain away into the subsoil, and will carry with it the larger portion of the soluble matter of any manure that has been previously or simultaneously applied. This is not a scientific theory; it is a fact established by the experience of all who have examined into questions of drainage.

I may add, in reference to the remarks of Mr. Douglas, that in dry soils and seasons he prefers farm dung to artificial manures, because the former helps to retain the moisture. I entirely agree with him. On such soils artificials are only useful if a sufficient supply of water can be afforded throughout the season; but he will remember that I suggested artificials (with water when requisite) in answer to the inquiry of a gentleman who could not obtain farm manure, and who sought to know of

a substitute. That gentleman stated that during the present season he had been obliged to restrict his Roses to guano, and the high place he has taken at Rose shows seems to indicate that the substitute has been successful. Guano is, however, now-a-days of very uncertain, and often of very poor, quality; besides, it may at some seasons be too stimulating. The mixture of nitrate of soda, superphosphate of lime, and potash may be made to any strength and in any proportions desired.

If I were to presume (from some little experience with other plants) to advise such veteran Rose-growers I would say, Use during autumn neither much guano nor much nitrate of soda, but apply superphosphate and potash with just a little nitrate. This will cause growth of roots rather than of leaves, and will give firm and ripe wood and strong buds.—J. B. K.

SCOTTISH HORTICULTURAL ASSOCIATION.

THIS Association was formed at Edinburgh on the 20th of March, 1877, for the promotion and advancement of the science and practice of horticulture, and for the dissemination of a knowledge of such branches of natural history as are connected therewith.

These objects are proposed to be attained by the holding of periodical meetings for the interchange of information bearing upon these subjects, and the application of such knowledge to productive and decorative gardening, industrial economy, and the arts; by forming a museum and library suitable for the general information and reference of members; by encouraging the introduction and raising of new and meritorious plants, fruits, and vegetables, and the selection of such sorts as are suitable to the climate and soils of Britain with a view to their general cultivation.

That any person interested in the objects of the Association shall be eligible for membership, and be admitted as a member on being proposed, seconded, and duly elected by a majority present at any ordinary meeting. The annual subscription to be 2s. 6d., and payable in advance.

For 1877-78 Mr. Malcolm Dunn, Dalkeith Gardens, is President; Mr. H. Fraser, Leith Walk Nursery, Vice-President; Mr. John Methven, Leith Walk Nursery, Secretary; and Mr. David Laird, West Coates Nursery, Treasurer.

This is only a temporary statement of the aims, &c., of the Association—just sufficient to carry on the Association till the first annual meeting in March, 1878, when it will be revised and extended into laws, rules, &c., and the Association put on a proper and a permanent footing. Up to this there have been four numerous attended meetings held and various very interesting and useful papers read, the merits of which have been intelligently discussed by the members present. Eventually a summary of the papers and discussions for the use of members at a distance and the general public are hoped to be published. The Association already numbers above 150 members from all parts of the country.

NOTES AND GLEANINGS.

AMONGST the many treasures now approaching their fulness of beauty in Battersea Park—examples of both tropical and temperate vegetation—not many plants or shrubs are more effective than the GOLDEN ELDER (*Sambucus nigra* var. *aurea*). Several plants are growing in one of the large flower beds, and their bright golden foliage is very conspicuous, and has a fine contrasting effect with the dark green of the surrounding trees and shrubs. The Elder appears to have been cut down during the winter, and to this with good soil is to be attributed the healthy growth and rich golden hue of the shoots and foliage. This Elder is a very striking plant for shrubberies, and presents anything but a coarse appearance.

It cannot be too widely known that many of the DOUBLE GERANIUMS of comparatively recent introduction possess the same close and compact habit and free-flowering qualities of the single varieties. A recent inspection of Mr. Cannell's fine collection of them at Swanley affords ample proof of that being the case, and also for noting a few of the best varieties at present in cultivation. One of the most free is undoubtedly the semi-double variety Wonderful, and one of the most useful is Madame Thibaut. Very fine are Eugène Bandawin, J. C. Rodbard, C. H. Wagner, Lucie Lemoine, Député Lafize, Simon Delaux, Littré, Jean Dolfus, and Purple Emperor, new, very rich. Mdle. Amelie Ballet is the best white variety.

WHILE in most gardens walls are considered to be necessary for the ripening of TOMATOES even in the south of

England, no such sheltering aid is wanted by the London market gardeners for this crop. Tomatoes are now grown in the open quarters with apparently the same ease and certainty as Potatoes or any other crop. In one garden alone we lately saw 11,000 plants in one square, and 9000 more were growing in the same "grounds"—those of Messrs. Bagley at Fulham. The plants are in rows 3 feet apart and 18 inches between the plants. Trenches are prepared much after the manner of Celery trenches, and the plants well established and hardened are turned out of pots. The manure is used during the course of its fermentation, and the trenches are levelled-in. Each plant is trained to a short stake and is stopped when about 2 feet high, and when five or six clusters of fruit have formed no further growth of shoots is permitted. Already the fruit is of large size, and there is every prospect of a very heavy crop ripening during the season. The soil near walls and fences is considered by the market growers to be too dry and poor for Tomatoes, which are found to thrive much better in the open and highly manured fields. The variety grown resembles the Orangefield. It is surprising to notice the lavish yet profitable manner in which manure is used in these fields, nearly or quite ten times as much as is used by some agriculturists, and five times as much as is used in many gardens.

— IN 1875 we published a very favourable notice of two DOUBLE CLARKIAS—Salmon Queen and Purple King. They were raised by Mr. Hardy, seed-grower, Bures, Suffolk. He has sent us specimens of this year's growth of the same variety, and we can testify they are very fine.

— MR. J. LINDSAY, gardener, enclosed to us a spray of a GREEN ROSE. It has been grown in the gardens of Wybrants Ophert, Esq., Ballyconnell House, Falcarragh, Co. Donegal, for the last eight or ten years. Its entire green colour is not attractive. In growth and foliage it is described as neat and pleasing. It is a good example of *R. viridiflora*.

— VILLA GARDENS are yearly growing in numbers. Small enclosures of a few rods of ground, or even a few yards, frequently afford much pleasure to their owners and yield also instruction to visitors. One of the latest instances—not, perhaps, of the mere attractiveness of a villa garden, but of its value to the owner and the general interest attaching to it which has come under our notice—is that of W. Clifton, Esq., at Fulham. Mr. Clifton is a gentleman who has long been engaged in matters connected with the public service, and he has brought his scientific attainments to bear on the management of his garden. His residence is half surrounded with a capacious glass structure, and from this he has had the honour of having out and forwarded to Her Majesty nine hundred blooms of *Devoniensis* Rose in one week. That was some years ago; and Roses are not grown now, but instead Tuberoses, Begonias, Lilliums, Hippeastrums, Phloxes, &c., are cultivated and increased. Phloxes are grown by hundreds—home-raised seedlings. These are very varied in colour, and it is worthy of note that one variety has been exclusively relied on as the seed-bearing parent. Many varieties are very good, and as flowering in pots and growing in semi-wild luxuriance in the garden produce an excellent effect. Several Geraniums have been raised in Mr. Clifton's garden, amongst them the excellent golden bicolor Crown Prince. The outside garden is also noteworthy. It is not a trim and formal enclosure designed on geometrical principles and ornamented with carpet beds; on the contrary, it is as informal as a garden can be. The centre has been hollowed out, and contains a little water, little lawns, several beds of shrubs, and a thicket of Conifers. Wellingtonias raised from cuttings in 1861 are now fine trees, equal if not superior to those raised from seed. There are many kinds of Conifers, and almost every tree has a history. There are dozens of Hollies raised from seed by the owner and now laden with berries. The shrubs and trees cannot be particularised, but a variety of the *Deodar* demands mention—*Cedrus Deodara robusta*. It is most striking and handsome; the main branches being as close, flat, and dense as those of the Cedar of Lebanon, while the terminal growths are almost fountain-like by their graceful drooping character. *C. africana* is also very fine. Mr. Clifton with the aid of his clever young gardener "Bill" (Mr. W. Chisholm) proves how varied and interesting a villa garden may become when it is intelligently managed.

— We have received the schedule of the NATIONAL CAR-NATION AND PICOTEE SOCIETY'S SHOW, which is to be held in the Botanical Gardens, Manchester, on August 4th, 5th, and

6th. The classes are not quite so numerous nor the prizes so large as those provided for the southern show recently held at the Westminster Aquarium. Many northern florists—to their honour be it said—appear to be prompted by a real earnest love for their flowers rather than tempted by high prizes for their cultivation; hence good exhibitions result, the last of which we trust will be the best. In order to secure uniformity in the stands the Hon. Sec., the Rev. F. D. Horner, requests that the standard of dimensions given below, which was discussed at the general meeting in January, 1876, will be adopted by all the exhibitors this year. The collections of twelve must be shown in boxes of three fours, of the following dimensions—viz., from centre to centre, 3½ inches; from centre to outside, 2½ inches; outside length, 15½ inches; width, 12 inches; depth, 4½ inches; to be painted a bright green. The collections of six blooms, in boxes of three twos, of similar distances with those of the twelve-blooms class. An unregulated size of stands interferes seriously with the good effect of the show; and this matter is now upon so prominent a footing that flowers shown on stands not in accordance with the Society's regulations are liable to disqualification.

— THE KIDDERMINSTER HORTICULTURAL EXHIBITION, which closed on the 26th ult., was, we are informed, very successful. The exhibits were not only numerous but of superior quality. Nearly £200 were offered in prizes. The chief winners in the plant classes were Mr. Tudgey, gardener to J. F. W. Williams, Esq.; Mr. Cypher and Mr. Pilgrim, Cheltenham; and Mr. Plevy, gardener to E. J. Morton, Esq. In the fruit classes Mr. Cox, gardener to Earl Beauchamp; Mr. Moffatt, gardener to H. Alsopp, Esq.; Mr. Child, gardener to the Earl of Coventry, were successful exhibitors. Vegetables were very good, especially Potatoes. Carter's Main Crop, Snowflake, Early Rose, Mona's Pride, and the Emperor were the leading varieties.

— ONE of the most graceful and effective of flowering shrubs for imparting an air of lightness and cheerfulness to the prevailing greenness of shrubberies in July is *SPIRÆA ARLEFOLIA*. This *Spiræa* is profusely laden with its elegant pearl-white flowers in summer, as is the *Deutzia* in the spring. A valuable quality possessed by this *Spiræa* is that it grows and flowers freely under the shade of trees. Our attention was drawn to this fact by Mr. Harding, gardener to Rev. W. Arthur, Clapham Common, who pointed out a shrub growing under the dense shade of some large Elms, and which was flowering with the greatest freedom. Mr. Harding, who has a large acquaintance with hardy flowers and shrubs, esteems *Spiræa aralefolia* as one of the most useful for cultivation in sun or in shade, and for affording a great supply of elegant sprays for vase and room decoration.

— WE remarked a few weeks ago on the probability of false alarms being heard of the advent of the COLORADO BEETLE into this country. An alarm of this nature has originated at Hereford, where the dreaded beetle turns out to be the gardeners' friend, the ladybird. The Potato beetle, as everyone ought to know, is not spotted like the lady-bird, but is clearly marked with ten stripes down its wing cases. When we published in 1874 an engraving of the Colorado beetle a correspondent predicted that if the pest arrived in this country it would probably be in the pupa state, or some enthusiastic naturalist would nurse over some precious specimens and expect a medal for his pains. The members of the York Chamber of Agriculture do not appear to regard the last-named source of danger an empty one, for at a recent meeting the following resolution was proposed and carried:—"Considering the danger to which we are exposed from the ravages of the insect in question, it is to be regretted that over-zealous naturalists are having beetles brought over alive from America, and are keeping and experimenting with them as to their habits and the food they will eat." The best means of becoming acquainted with the appearance of the beetle is by obtaining models of it from Mr. Louis Stollwerck, 145, Cannon Street, London. The insect in its various stages is more clearly represented by these models than by illustrations.

— SHORTLY after the Kirkcudbright Flower Show was opened to the public last week Lord Selkirk presented a handsome marble timepiece to Mr. JAMES SERVICE, nurseryman, along with a silver teapot for Mrs. Service, in acknowledgment of the hearty interest which he had always taken in the exhibitions, and of his exertions to promote their success. His lordship remarked that he understood Mr. Service had been one of the most zealous promoters of these exhibitions, and

he thought it alike honourable to himself and creditable to his brother horticulturists that his exertions should be thus publicly acknowledged. He had the greatest pleasure in making the presentation. The plate upon the timepiece bore the following inscription:—"Presented to Mr. James Service, nurseryman, Maxwelltown, Dumfries, as a mark of respect by a few friends. Kirkcudbright, 20th July, 1877." This pleasing mark of recognition was appropriately acknowledged by Mr. Service.

— In alluding to the VINEYARD AT CASTLE COCH, "The Gardener" states, the Vines planted in the spring of 1875 in the Marquis of Bute's vineyard are looking remarkably well, and there is every appearance of their carrying a good crop. Each plant has from three to four strong shoots, and each shoot showed two bunches of Grapes. The experiment which Lord Bute determined on making two years ago will probably be tested in some degree this year, as it is intended to allow the plants to mature three or four bunches of Grapes each. Judging from present appearance they will do this easily. M. Chauvenet, a vineyard proprietor from the Côte d'Or, France, has been on a visit to Castle Coch, and expresses a very favourable opinion. He thinks the site and soil all that could be desired, and states that the Vines are looking as well, and are quite as forward as those in his own vineyard at Nuits; and he believes, from what he has seen, that the experiment will turn out satisfactory. We understand that M. Chauvenet will visit Cardiff again in the autumn to give the benefit of his experience in wine-making; and we sincerely hope that before many years have elapsed we shall have the opportunity of tasting wines of home growth.

— *LILIUM LONGIFLORUM* var. *EXIMUM* we observe in fine condition on entering the temperate house at Kew, and believe it to be one of the best for pot culture. Its large white flowers are scarcely to be surpassed for beauty, and the sweet perfume has not the overpowering strength of *L. auratum*. The *Victoria regia* commenced flowering some days ago, and on the roof of the house is a splendid yellow-flowered climber growing with great vigour and profusion of bloom. This is *Adenocalymna nitidum*; it is allied to *Bignonia*, and the flowers are of large size. *Cyrtodeira fulgida* is one of the most striking of all plants in flower; its leaves are of dark metallic hue, relieved with white along the midrib and principal veins, and the flowers are deep scarlet. This plant is growing in the stove, and, though doing well with pot culture, would evidently be very fine as a basket plant. *Bomarea Carderi* is blooming with fine effect in the succulent house. It was introduced at the Royal Gardens and also by Mr. W. Bull, whose plants have this summer been exhibited in flower. One of the umbels has about thirty-two flowers, the majority expanded, while the others remain as pretty pink buds. The perianth or coloured portion here measures in length nearly 2½ inches, the outer segments pink, and the inner green, with black-purple spots. The *Bomarea*s are sometimes grown in pots, but appear to reach a much better development if planted out.

— AMONGST hardy flowering shrubs *HYDRANGÆA PANICULATA GRANDIFLORA* is one of the most effective. We first saw this *Hydrangæa* flowering in the nurseries of Mr. Charles Van Geert at Antwerp. We have since seen it in several nurseries and in some private gardens in England, and in every instance it was generally admired. It appears to be perfectly hardy, grows freely in good soil, and flowers with the greatest profusion. It is particularly suitable for planting amongst shrubs near the margin of the borders, and in such a position it is highly effective. It is a little surprising that this *Hydrangæa* is not more extensively cultivated, since plants of it are now plentiful and can be purchased at a cheap rate.

OUR BORDER FLOWERS—DAY LILY.

DAY LILIES are quite at home with us in our borders: they are capital plants for filling-up waste places, for they are not particular as to soil or situation provided they have a moderate share of light and air, yet they enjoy partial shade. Many years have passed away since they first found their way to our shores, and I venture to say that had they been an expensive delicate race of plants they would have found favour and in all probability been extensively cultivated, but bearing any amount of rough usage they are thrust into corners often nearly out of sight.

To see them in perfection they must have space afforded them, and the better they are treated the greater is their

beauty. They are rapid-growing plants, and should have a good depth of soil for their roots; they are moisture-loving plants, but the water must not be stagnant. A compost of two parts good sandy loam, one part peat, one part well-decomposed vegetable matter, and a little coarse sand will meet their requirements. They are useful in pots for any purpose. When well done a plant in a good-sized pot having twenty or more flower scapes, plunged and in the centre of a large bed or other conspicuous place on the lawn, is a grand object when in full bloom. They are effective too for indoor decoration, and for cut flowers also.

Beautiful as are *Hemerocallis flava*, *fulva*, *graminea*, *japonica*, *disticha*, and *Dumortieri*, they are far surpassed by the double and variegated kinds. They are best increased by division when growth has commenced in spring.—*VERITAS*.

PARAFFIN OIL VERSUS THE PARSLEY GRUB.

ABOUT a month ago a long row of Parsley in the kitchen garden here became quite yellow in the leaves, and showed every sign of being badly attacked with worms at the root. I mixed a wine-glassful of paraffin to every six gallons of water, and gave the row a thorough watering. The result is that the plants are growing vigorously, and to see them now no one would ever think they had been so nearly killed a month ago. There is no vegetable suffers more from insects at the root than Parsley. I could name many good gardens where it fails every year through the same cause. Wherever it is failing now I would advise an immediate application of paraffin.—*A KITCHEN GARDENER*.

THE NETTLE.

THE Nettle is not a popular plant. Most persons, indeed, cherish for it a deep-seated dislike, declaring that it adds dreariness to the waste places which it frequents, and that it repels every advance to friendship by its sharp sting and acrid juices. These allegations are partially true, yet it has somewhat to say in its own behalf. In the first place it is extremely well connected. It belongs to the same family as the Hop, the Hemp, and the Mulberry, claims kindred with the whole Fig tribe, so rich in fruit and rubbers, and is allied to the Banyan, most wonderful of reproducing growths, and to the Upas of Java, though, perhaps, the less said about that the better. It dwells in desolate places because others are denied it, but it clothes them with life and colour and the graces of poetic association. More than a score of insects are nourished solely by it, among them some of the most gorgeous butterflies that ever played in the summer sun; and, although its leaves are somewhat coarse, it brings to mind Chaucer and Waller and the gentle Ophelia, wreathed with

"Corn Flowers, Nettles, Daisies, and long Purples."

Though not prepossessing to the unassisted eye, it bears, and, indeed, courts minute inspection, its dense and slender hairs when seen through the microscope exciting admiration and amazement by their wonderfully curious mechanism. Though this delicate and yielding armour, lightly touched and languidly toyed with, is venomous, it loses its power to harm when firmly grasped, and the plant, rich in soothing as in irritating properties, allays the burning of its wounds by its own healing juices. In many localities, also, it grows in company with, or not far from, the Dock (*Rumex*), which is an antidote to its poison. Children increase, as they think, the potency of the latter by repeating during its application the antique charm:—

"Nettle in, Dock out,
Dock in, Nettle out,
Nettle in, Dock out,
Dock rub Nettle out."

That the Nettle may be useful as a pot-herb is proved by the old Scotch song:—

"Gin ye be for lang kail,
Cow [pluck] the Nettle early;
Gin ye be for lang kail,
Cow the Nettle early."

"Cow it laigh, cowe it snne,
Cow it in the month of June,
Just when it is in the blume,
Cow the Nettle early."

From the fibres of this plant the French manufacture good paper, the Kamchatkans fishing-lines, and the Hindostanees a delicate and famous cloth. Its roots boiled with alum

afford a yellow dye, and the juice of the stalks and leaves impart to woollen stuffs a pleasing and permanent green; and in the north of Europe it is grown as fodder for cows, and cut several times in the year. In many places it is highly valued as food for swine, and the chopped leaves are eagerly eaten by poultry, especially by young turkeys, to whom they are a luxury. One species of the genus produces tubers, which form in India an article of diet either raw or cooked. Australia presents us with a tree Nettle, which sometimes reaches a height of 140 feet, with a trunk of proportional thickness.

The Nettle is known to heraldry through the family of Malherbe, whose armorial bearings were three Nettle leaves proper; to history through the Romans, who are said to have carried it to England with their arts and arms; and to legendary literature through the founder of the Rhine castle of Eberstein.

THE INDIGO PLANT (*INDIGOFERA TINCTORIA*).

ANNUALLY there is an indigo planters' dinner at Calcutta, and several of those dinners were enjoyed about thirty years



Fig. 22.—*Indigofera tinctoria*.

since. The planters came down the Ganges, and we have portraits of them examining sedulously samples of the purple dye.

The uncertainty of the indigo crop is as proverbial as that from the Hop plants in England.

In Bengal, the crop is particularly subject to be destroyed by the annual inundation of the river, if it occurs earlier than usual. A storm of wind, accompanied by rain and hail, as completely ruins the crop as if devoured by the locust; neither from this latter scourge is the crop exempt.

This proneness to injury extends throughout its growth. The seedlings are liable to be destroyed by an insect closely resembling the Turnip fly, as well as by the frog. Caterpillars feed upon the leaves of older plants, and the white ant destroys them by consuming their roots.

To these destructive visitations are to be added the more than ordinary liability of the plant to injury, not merely from at-

mospheric commotions, but even from apparently less inimical visitations. Thus, not only do storms of wind, heavy rains, and hail destroy the indigo planter's prospects, but even sunshine, if it pours out fervently after showers of rain, is apt to scorch the plants; and if it occurs during the first month of their growth is most injurious to their future advance.

The reason of this effect appears to be the violent change from a state of imbibing to a rapid transpiration of moisture.

The *Indigofera tinctoria* belongs to the natural order Leguminosæ, and the Linnean class and order Diadelphia Decandria. Its leaves are pinnate, its stem shrubby and erect; its flowers in racemes are pale with a red keel and vexillum.

THE AMERICAN POPLAR (*Anglice*, TULIP TREE), *LIRIODENDRON TULIPIFERA*.

THIS is by far the finest tree in our forest. Nowhere does the Poplar attain greater dimensions than in West Virginia. It often reaches the height of 120 to 140 feet, and the diameter of 7 to 8 and 9 feet, with a distance of 80 feet from the first limb. Several trees are reported as 10 and 11 feet in diameter in this state. It delights in deep loamy and extremely fertile soils, such as are found in rich bottoms and on rivers or swamps. It will grow, however, on soil of different kinds, but has its timber affected accordingly. A deep sandy loam seems best for it. To attain the greatest size it must be sheltered from the high winds, and at the same time have light and air enough to ripen its wood. It is generally propagated by the seeds. The timber, though classed among the light woods, is yet much heavier than the true Poplar, for this tree is properly called Tulip Tree, and not Poplar. Its grain is fine, rather compact, polishes well, and is easily wrought. When dry a cubic foot weighs 25 lbs. It affords excellent charcoal, yielding 22 per cent. The heart-wood, perfectly seasoned, long resists the action of the weather, and is rarely attacked by insects. When not perfectly seasoned, however, it is apt to warp under alternations of dryness and moisture. The nature of the soil on which it grows has a striking effect on the colour and quality of the wood. Mechanics distinguish three kinds—white, blue, and yellow. No external marks will distinguish them positively. In general, the white Poplar grows on dry, gravelly, elevated ground, and has a branchy summit with a small amount of heart-wood. The grain is coarser and harder and the wood decays more rapidly. The blue has the same general character. The yellow Poplar is by far the finest kind, and has all the qualities required for a great variety of uses. It would take too much space merely to enumerate all of these. It is used extensively in the interior of houses for shingles and for weather-boarding. Large quantities are used in making trunks covered with cloth or skins; for tables, bedsteads, seats of chairs, &c.; for the supports of veneers, inner work of bureaus, &c.; in winnowing machines; for bowls, broom handles, rails, and planking for fences; for the backing of picture frames, looking-glasses, &c., it is employed. The bark of the tree is considered by some hardly inferior as an antiseptic and tonic to the Cinchona. The aromatic principle resides in a resinous matter in the bark, and when used stimulates the intestinal canal and acts as a gentle cathartic. In many instances the stomach cannot support it unless accompanied with a few drops of laudanum. The bark, mixed with an equal amount of dogwood and steeped in whisky, forms a tincture used as a remedy for intermittent fever. The bark reduced to powder and given to horses is a pretty sure remedy for worms. The Poplar is one of the most generally diffused and abundant trees in the State. Great quantities of the finest trees are to be found in the central and southern counties. Perhaps some of the largest timber is met with on the affluents of the New, and Kanawha, and the Big Sandy rivers.—BURNET LANDBETH, Philadelphia, U.S.A. (in *Journal of Forestry*).

DISTINGUISHED BOTANICAL TRAVELLERS.

No. 1.

DAVID DOUGLAS.

DAVID DOUGLAS was born at Scone, in Perthshire, in 1798, where his father was a working mason. He received a plain education at the parish school of Kinnoul, and was early placed as an apprentice in the garden of the Earl of Mansfield at Scone Palace. As a lad he was remarkable for his fondness for books and the study of plants. In the winter he devoted his evenings to reading, and in the summer to making botanical excursions for the purpose of collecting the wild plants of

the neighbourhood. In 1818 he went to live at Valleyfield, the seat of Sir Robert Preston, Bart., whose garden was then celebrated for its choice collection of exotic plants. Here he was treated by the head gardener, Mr. Stewart, with great kindness, who procured him access to Sir Robert's valuable botanical library. From Valleyfield he removed to Glasgow, where he was employed in the Botanic Garden of the University. His intelligence attracted the attention of Dr. (afterwards Sir William) Hooker, then professor of botany at Glasgow, and he made him his companion in his botanical excursions for the purpose of collecting materials for his "Flora Scotica." By Sir William Hooker he was recom-

mended to the Horticultural Society of London as a botanical collector, and in 1823 he was sent to the United States, where he procured many fine plants, and greatly increased the collection of fruit trees in the possession of the Society. In 1824 he was sent by the Horticultural Society to explore the vegetable productions of the country adjoining the Columbia River and southwards towards California. The vessel in which he went out touched at Rio de Janeiro, where he collected many rare Orchidaceous plants and bulbs. In the course of his voyage round Cape Horn he shot many rare and curious birds. He visited the island of Juan Fernandez, which he describes as "an enchanting spot, being fertile and delight-



Fig. 23.—MR. DAVID DOUGLAS.

fully wooded." Here he sowed a quantity of garden seed, with the wish, he says, that he might add "to the collection of a second Robinson Crusoe, should one appear." He arrived at Fort Vancouver on the Columbia River in April, 1825. During his journey he sent home from time to time large numbers of beautiful plants, with seeds and dried specimens. Of the genus *Pinus* he discovered several species of gigantic size, one of which has been named after himself, *P. Douglasii*. In the spring of 1827 he went from Fort Vancouver across the Rocky Mountains to Hudson's Bay, where he met Captain (afterwards Sir John) Franklin, Dr. Richardson, and Captain (afterwards Sir George) Back, returning from their overland Arctic expedition. With these travellers he returned to England, bringing with him the result of his researches. Shortly after his return he was elected, free of expense, Fellow of the Linnean, Zoological, and Geological Societies. He

remained in London two years, and sailed again for the Columbia River in 1829. He afterwards went to the Sandwich Islands, where he had remained some months when an accident put an end to his existence. The natives of the Sandwich Islands are in the habit of making pits, in which they catch the wild bulls. In one of his excursions Mr. Douglas fell accidentally into one of these pits, in which an infuriated animal was already trapped. The animal attacked him, and he was found dreadfully mutilated and quite dead. This occurred on the 12th of July, 1834.

THE ROSE ELECTION AND ROSES.

SEVERAL letters have appeared, and I have also had one or two privately disapproving the suggestion of restricting the naming of similar Roses like *Mlle. Marie Finger* and *Eugénie Verdier*.

As it is essential we should agree, I have determined to withdraw the idea. Being the child of "WILD SAVAGE" and myself, of course we thought a great deal of it; though, as regards the two Roses above named, they are so beautiful and the colour so exquisite when fresh, that I should be rather glad of the excuse that two should be in the forty-eight. I take Mlle. Finger to be rather deeper, and certainly a better grower than her older sister.

Thanks to Mr. Curtis for hints about cutting Roses for exhibition. I cannot help thinking that certain Roses will grow in a stand after cutting, whilst others do not seem to move, though apparently cut under similar conditions. Amongst the growers I fancy are Baronne de Rothschild and François Michélon. Some Roses again keep their fresh colours, whilst others almost immediately look lustreless. A startling instance of the latter is Paul Neron: an hour or two after cutting, its beauty (and though coarse it is sometimes beautiful) vanishes, and the colour is dull, and coarseness with dulness of colour is fatal, hence it never appears to me to improve a stand.—JOSEPH HINTON, *Warminster*.

ROYAL HORTICULTURAL SOCIETY.

REPORTS ON FRUITS, FLOWERS, AND VEGETABLES AT CHISWICK.

A MEETING of the Fruit Committee was held on July 24th at Chiswick to examine subjects grown for trial there this season. Henry Webb, Esq., in the chair.

THE GOOSEBERRIES, of which there is an extensive collection growing, were first examined, a small basket of each variety (two hundred in number) having been gathered for comparison and classification. The Committee selected the following varieties as especially worthy of cultivation—viz., *Reds*: Red Champagne, Warrington, Monarch, and Starling. *Green*: Roseberry, Overall, Green Globe, Pitmaston Green Gage, Cheshire Lady, Shiner, and Gretna Green. *Whites*: Whitesmith, Orleans, Keepsake, Safety, and Top Gallant. *Yellow*: Sulphur, Rumbullion, Aston Hepburn, and Yellow Globe.

RED CURRANTS—These were examined with great care as to their nomenclature, so much confusion still existing amongst them in that respect. Of the most approved varieties noted the earliest and the largest is the *Red Cherry*, which has the following synonyms—viz., Bertin No. 9, Grosse Rouge de Boulogne, Fertile d'Angleterre, La Hâtive, La Fertile, Fertile de Bertin, Hâtive de Bertin, Chenonceau, Belle de St. Gilles, Fertile, Fertile de Palluau, and La Versaillaise.

The *Red Dutch*, which is the variety most generally cultivated in gardens, rejoices in the following synonyms:—Knight's Large Red, Knight's Sweet Red, Goliath, Fielder's Red, Palmer's Late Red, Pitmaston Red, Pitmaston Prolific, Large Sweet Red, Bertin No. 1, Dancer's Selected, and Jackson's Mammoth.

The *Red Grape*, a long-bunched sort, of a pale red. Synonyms:—Rouge Transparent, Queen Victoria, Fertile de Palluau.

Houghton Castle, the best constitutioned variety. Synonyms:—Houghton Seedling, Orangefield. A fuller report of these will appear in the Society's Journal.

An examination of the Turnips, of which about 150 varieties are this season being grown, was then made, and the earliest was the Green Strap Leaf (Carter & Co.). Tomatoes were also examined, a very large collection of which is being cultivated in pots, the only one showing signs of ripening being *Early Gem*, sent by Messrs. Veitch & Sons. Of these a later examination will be made.

A meeting of the Floral Committee was held at Chiswick on July 25th—George F. Wilson, Esq., in the chair—for the examination of the various collections of plants growing in the gardens for trial this season.

1, ZONAL PELARGONIUMS.—Of these a large selection of the most approved newer varieties which were grown in pots last season have been bedded-out along with some of the best older sorts for comparison. First-class certificates were awarded to Mr. J. R. Pearson for Atlas, a large-trussed crimson scarlet Nosegay; Rev. A. Atkinson, crimson scarlet. To Messrs. James Cocker & Sons for John Fraser, light magenta. To Mr. J. George for Mrs. J. George, rosy cerise; and Beauty of Surrey, crimson scarlet, very free, and excellent habit. Of the older varieties conspicuous for their excellence were noted Vesuvius, Princess of Wales, Vesta, Cleopatra, Violet Hill Nosegay, and Claude de la Meurthe, &c. Of the newer varieties which have been sent out this season, and grown in pots under glass, first-class certificates were awarded to Mr. J. R. Pearson for Rebecca, a very beautiful magenta scarlet Nosegay; Louisa, a

sort of shaded magenta pink, mottled with rose; Blanche Gordon, light pink. To Mr. J. George for Lord Mayo, bright scarlet. Specially noticeable also were Miss Wakefield, Lizzie Brooks, and Lord Giffard.

2, BEDDING VIOLAS.—A large collection of those reported on last year are again under cultivation, the most noticeable amongst them being Crown Jewel (Grieve), Blue Beard, Blue Bell, Queen of Lilacs, Lilacina, Rubra Lilacina, Princess Teck, and Pilgrimage Park. Of new varieties first-class certificates were awarded to Mr. R. Dean for Vestal, a pure white variety of a fine free habit; to Messrs. Dickson & Co. for Holyrood, a very rich dark blue variety of good habit; to Mr. Fromow for Golden Prince, a clear yellow variety with distinct white eye.

3, BEGONIAS.—A fair selection of these have been grown in pots, chiefly of the tuberous-rooted class, the most striking being Aome and Kalista (Veitch), Froebel, &c. A first-class certificate was awarded to a seedling from *roseiflora* raised at Chiswick, and named by the Committee Mrs. Barron. It is of very robust growth, forming a large plant; flowers large, roundish, and produced freely, of a pale rosy pink: a very distinct sort. Moonlight, a hybrid raised by Col. Clarke and certificated last year, is exceedingly attractive. This, which is something of the habit of *Weltoniensis* and producing long racemes of pure white flowers, will become a very popular decorative plant.

4, FUCHSIAS.—Of these a selected collection has been grown, occupying one house. A first-class certificate was awarded to Messrs. Laing & Co. for Lord Beaconsfield, a hybrid from the old Fulgens, and possessing a good deal of its character. As a free-blooming decorative plant it will prove very valuable. Very conspicuous amongst others is Champion of the World, a very large dark double sort—almost a monster.

5, VERBENAS.—Only a few varieties of these are on trial. For habit Purple King still stands pre-eminent. Blue Bell (Smith) is very effective. A first-class certificate was awarded to Mr. John Fraser for Carl Sieglig, an intensely dark blue variety of good habit.

6, HARDY ANNUALS.—Complete collections of Iberises, Clarkias, Godetias, Viscarias, Dianthus, Stocks, Balsams, &c., are on trial this season, and when in full flower are exceedingly showy. Of Iberis first-class certificates were awarded to Messrs. Vilmorin et Cie. for two splendid novelties—viz., I. coronata hybrida nana rosea, a variety of fine dwarf growth with large rosy salmon flowers, not unlike gibraltaria and exceedingly beautiful; I. coronata hybrida nana alba, a variety of the same character with pure white flowers. Amongst the Godetias Lady Albemarle, which was certificated last year, is by far the finest. Of Viscarias none exceed in beauty the true V. cardinalis.

Mr. Charles Turner, Royal Nurseries, Slough, sent cut blooms of his seedling Roses Penelope Mayo and Harrison Weir. This latter variety is of a rich dark crimson colour, and is a promising variety. The Committee highly recommended it, at the same time requesting that it be again brought before them, being unable to give a final decision from seeing only one bloom.

RESULTS OF PEAR AND APPLE CULTURE.

In the year 1864 I bought a small piece of land with the view of building a domicile; and as no residence is complete without a garden and a few fruit trees, and having the adage impressed on my mind, "Who plants Pears plants for his heirs," and being then approaching if not quite arrived at middle age, I began to look about me for some course to adopt to enjoy the present produce. Chance introduced "Rivers' Miniature Fruit Garden" to my notice, and I there found the system that was likely to answer my purpose, for it promised immediate results.

I bought and planted some fifty or sixty miniature Pear and Apple trees, bushes and pyramids, which have since been added to, making my number of trees altogether upwards of three hundred—Pears, standards and pyramids, 103; trained trees, 10; Apples, pyramids and bushes, 80. These are in a bearing state, ten years old and upwards. Younger trees and grafts, 128: total, 321. As I stated in my letter about Roses the soil is a light gravelly one, subsoil dry gravel. In planting the Pears care was taken to dress the soil richly with manure, and in the case of Apples to select the most loamy soil. Some loam brought from elsewhere has been added.

The trees were originally planted about 3 feet apart. They have been summer-pinned, root-pruned, and shifted in the

manner recommended by Mr. Rivers, and they are now on the average about 5 or 6 feet apart, the most vigorous trees having reached 7 or 8 feet in height and about 4 feet through; others retain the more dwarf character, more resembling in size a large Currant or Gooseberry bush. The result has been eminently satisfactory, I can scarcely up to this year record any failures in amount of produce. Some sorts have of course been more productive than others, but I have not, on account of using them for my table, had a systematic account of the produce taken, but I intend to do so this year. I extract from my memoranda the following account:—

In 1875 one Nonesuch Apple tree produced four gallons of fruit; 1876, three Beurré Superfin Pears produced half a bushel, ninety-four in number; five Marie Louise, bushes, six gallons and a half; one Marie Louise d'Ucele had sixty fruit, 29 lbs. in weight; one ditto, twenty-two fruit, 13 lbs. 12 ozs.; one Catillac, forty-nine fruit, 33 lbs. 14 ozs.; one ditto, sixty-two fruit, 47 lbs. 11 ozs. Of the 103 small Pear trees and ten trained I have had thirty-eight failures this year, but the crop of the remainder shows such a large promise that I still consider the year a favourable one. I enumerate the failures below—five Winter Nelis, apprehended cause of failure, overbloom and bleak winds; four Beurré Superfin, the same; one Uvedale's St. Germain, soil and climate does not suit; one Williams' Bon Chrétien, accidental; five Marie Louise and seven Joséphine de Malines, overbearing and want of vigour; two Chaumontel, cannot account for; one Marie Louise d'Ucele, previous overbearing; three Colmar Van Mons, ditto; two Easter Beurré, want of vigour. Pears discarded on account of soil or climate not suiting their growth—Gluon Morcean, Beurré d'Aremberg, and Uvedale's St. Germain, always cracked, did not ripen, and were affected with rust and spots; Winter Nelis, blossomed very freely, but fruit if set failed to hold. In addition to the failures in the Pears stated above, and the causes to which such failures are attributed, may be added the severe winds and frosts of the latter end of April and beginning of May this year.

I append a list of the sorts of Pears and Apples I have cultivated with success, with notes on the crop of this year.

Pears.—Doyenné d'Été, full crop; Jargonelle, full crop; Williams' Bon Chrétien, full crop from three trees; Beurré d'Amanlis, full crop; Colmar d'Été, immense crop, has required much thinning; Louise Bonne of Jersey, good crop from three trained trees; Marie Louise, good crop from one trained tree; Marie Louise d'Ucele, immense crop from four trees; Gansel's Bergamot, good crop; Huyshe's Victoria, good crop; Chaumontel, immense crop from six bushes; Beurré Diel, good crop; Joséphine de Malines, failure this year, ordinarily good; Ne Plus Meuris, good crop; Bergamotte Espéren, immense cropper (see notes on thinning); Easter Beurré, good crop; Catillac, failure this year, generally good; Colmar Van Mons, failure.

Apples.—Pitmaston Pine, King of the Pippins, Cox's Orange Pippin, Cox's Pomona, Ribston Pippin, Northern Spy, Keswick Codlin, Nonesuch, Blenheim Orange, Guernsey Pippin, and Flanders Pippin. All these have a good crop this year, and have in many instances required vigorous thinning.

I have been in the habit of thinning the fruit, and this I consider a very important part of culture, as allowing the trees to overbear themselves weakens them and takes away from the quality of the fruit. As an example: from one tree of Bergamotte Espéren, about 7 feet high and not more than 4 feet through, I removed last week 117 Pears about the size of a walnut, leaving quite enough on to ripen. The fruit will be larger and the trees not distressed, and also less liable to be attacked by insects. I observe that the grub always attacks at the points of contact. A Pear bored into is ruined; it will not keep to ripen, but rots. I never leave two fruits on one spur. I have been in the habit also of disbudding when the tree has shown evidence of blooming too strongly. I believe the production of an excess of pollen is injurious to the tree; I have noticed that more fruit sets from a moderate blossoming than from an excessive one. I take care with regard to pruning to remove in the spring any unripe wood of the previous season, as it is worse than useless.

With regard to Apples I have much fewer failures to record this year than on the Pear trees. Of the eighty Apples in bearing not more than six have proved total failures, and this I do not attribute to the weather during blooming, but rather to other causes needless to mention. With regard both to Pears and Apples I have followed strictly the rules laid down by Mr. Rivers—summer-pinching, shifting, and root-pruning;

mulching with good stable manure, and watering during the very dry summers we have had sometimes of late. The trees have had no protection from the frost. I extract from my memoranda, April 12th, 1876—Snowstorm, Pear blossom entirely covered with 2 inches of snow, yet I had an excellent crop last year.—A CONSTANT SUBSCRIBER, *Alverstoke, Hants.*

ROYAL AQUARIUM NATIONAL CARNATION AND PICOTEE SHOW.

In all respects the Exhibition surpassed the anticipations of its promoters. The date could not easily be altered, and within a few weeks of the show the most experienced growers thought that the best collections in the south could not be in in time. Mr. Turner was a week too late, and the best flowers of Mr. Dodwell's collection I hear were not in. High praise is due to Mr. Robertson, the Manager of the Royal Aquarium, for the manner in which the promoters of the Exhibition were entertained by him, and for the excellent arrangements made for the convenience of both exhibitors and judges.

All the classes were well filled; in some of them as many as six prizes were awarded to the same number of exhibitors. As in the case of the National Auricula Show, lovers of the flowers came from distant parts, and all of them, as far as I could learn, were well pleased with what they saw. The only drawback was the fact that the flowers had suffered considerably from the gas, and those who came the second day did not see them at their best. If a two-days show is held next year lovers of the flowers would do well to visit the exhibition on the first day.

I looked over the stands after the judging and made a few notes of the best flowers. Beginning with Scarlet Bizarres, there was nothing to surpass the old flowers that we have grown and loved for many years. Admiral Curzon (Easom) was at the head of the class. True Briton (Hepworth) in my stand of twenty-four was very fine indeed, and Dreadnought (Daniels) was but little behind the premier flower. In Crimson Bizarres there is a considerable advance on the old flowers. I am not sure whether a new flower sent out in the autumn of last year will not head the list. I have it now fine indeed, but being of the Jenny Lind stock it is late and I could not cut it for the show. The name is John Simonite (Simonite); the markings are brighter by far than in any other flower, and the guard petals are beautifully cupped and smooth on the edge. Rainbow (Bertram) was exhibited in the stand of the raiser, and is also superb. Only one flower was exhibited; if two had been put up the variety must have been honoured by a first-class certificate, a rule of the Society forbidding awards to be made to a single flower. J. D. Hextall (Simonite) was also shown in fine form; no collection is complete without it. Lord Raglan (Bowers) was fine, the colours being very brilliant, full of life and beauty. These were all the newest and best in this class.

We now come to the Pink and Purple Bizarres, the weakest class, where Sarah Payne (Ward), a lovely flower, was the best. Next to it came James Taylor (Gibbons), a smaller flower, but even more striking in its regular and well-defined markings. Falconbridge (May) was also good as shown. A new flower not yet in commerce, named Satisfaction, was shown in my stand of twelve. Mr. Rudd says of it, "Pale in its colours, but in form, habit, and rich lustrous white a perfect gem." Raised by Mr. T. Bowers.

Purple Flakes were well represented, and at the head of the list I must place James Douglas (Simonite). The purple is very bright, and the formation of the flower is not surpassed by any in the class. Premier (Milwood) was very fine in my stand. In Mr. Turner's collection I noted as being of great merit Florence Nightingale (Sealey), and Squire Trow (Jackson).

Scarlet Flakes were also well represented. Prominent was Sportsman (Hedderly), certainly the best in its class. Next to it I must place Clipper (Fletcher), shown in London for the first time; in my stand of twenty-four was a fine specimen of it. Marmion (Bertram) is quite new and was exhibited by its raiser, but I can only place it in the list of second-rate flowers; the petals are well formed, and the flower full and nicely rounded, but the white is not pure, and lacking this no flower can be placed in the highest position. John Bayley (Dodwell), Mr. Battersby (Gibbons), and James Cheetham (Chadwick) all deserve honourable mention.

Rose Flakes constitute what may fitly be termed the ladies' class, and although it contains some most beautiful flowers some of the new varieties will certainly surpass the old sorts. At the head of the list must be placed the flower that gained the premium as the best Carnation in the Exhibition—Sybil (Holmes). It was shown by Mr. Turner, and well deserved the honours it received; its beautiful shell-like petals regularly marked with cherry rose on a pure white ground seem to leave nothing to be desired. Mrs. Dodwell (Lord) was shown in Mr. Dodwell's stand; the petals are of the finest shape, and the flower is regularly marked with bright rose—a first-class flower not yet in commerce. Of older flowers James Merryweather (Wood),

John Keet (Whitehead), Mary Ann (Fletcher), Flora's Garland (Brooks), and Lovely Ann (Ely), were the best.

Picotees were remarkably well shown. In the class for red-edged flowers the Picotee that gained the premium as being the best flower in the Exhibition was found in my stand of twenty-four—viz., John Smith (Bowers). It is a heavy red, the edge broad on a pure white ground without bars; when better known this flower will be much sought after. Princess of Wales (Fellowes) is a very fine heavy red, and is often equal to John Smith. J. B. Bryant (Ingram) and Leonora (Fellowes) made the four best heavy reds in the Exhibition. Light reds are a weak class, and in the single blooms only one flower was staged, a very fine specimen, however, from the collection of the Hon. Secretary—Thomas William. Although the flower was small the petals were well formed, ground colour pure white, and the edge without any feathering—a perfect wire. Mrs. Bowers (Bowers) was well shown in my stands. The ground colour is not sufficiently white, else it would be a very superior flower; the petals are large, beautifully formed, and the edge well defined.

In purple edges there were many flowers exhibited of the most faultless character. I am inclined to place Ann Lord (Lord) at the head of the list. The flowers shown were of the most perfect character—the edge a light wire; petals without spot or bar, and white, clear, and lustrous. This is a new flower sent out in 1874. Alice (Lord) is also very fine and will yet maintain a high position; similar in its style to the other. Zerlina (Lord), a beautiful heavy purple, quite distinct; the edge is not so broad as in Norfolk Beauty, Alliance, and others of that type, but I fancy it will hold a high position for many years. Minnie, another of Mr. Lord's flowers, is at present very fine at Loxford, and with it may be named Prima Donna and Sylvia, two of Mr. Ben Simonite's flowers, which will take a long time to surpass in light edges. Of older flowers in this class that were well shown may be named Mary (Simonite), Mrs. Little (Hooper), Mrs. May (Turner), Nymph (Lord), Picco (Jackson), Mrs. Summers (Simonite), and Cynthia (Turner).

We now come to the last and most delicately beautiful class, and many flowers were shown of the highest merit. There was one new flower to which a first-class certificate was awarded, named Lady Louisa; it has a very bright medium rosy red edge much in the way of Fanny Helen (Niven), but is altogether a better flower than that; the white is very pure indeed. It was exhibited by Mr. Turner, but Dr. Abercrombie of Cheltenham, who also exhibited a flower of it, is the raiser. Dr. Abercrombie exhibited several fine seedlings, amongst them No. 170, a light rose edge with a most beautiful clear white petal, in the way of Mrs. Allcroft. 186, heavy rose, of the Edith Dombain type, has the material to make a first-class flower. Older sorts shown in superb condition were Mrs. Allcroft (Turner), Ethel (Fellowes), Miss Lee (Lord), Juliana (Turner), and Miss Wood (Wood). Mr. Turner's new Glove Carnation Mrs. Matthews is a most valuable acquisition. I do not know another flower of such properties in cultivation; it is pure white, deliciously scented, and of the most vigorous growth. It received a first-class certificate.—J. DOUGLAS.

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS

MESEM-BRYANTHEMUM SUTHERLANDII. *Nat. ord.*, Ficoideæ. *Linn.*, Icosandria Di-Pentagynia.—Flowers pink. "Mesembryanthemum Sutherlandii was sent to the Royal Gardens by Dr. Sutherland, Surveyor-General of the colony of Natal, in 1870, and has flowered annually in the summer months since 1872."—(*Bot. Mag.*, t. 6299.)

SALVIA SCHIMPERI. *Nat. ord.*, Labiata. *Linn.*, Diandria Monogynia.—"The subject of the present plate is a robust Sage, suited for the herbaceous ground, belonging to an Oriental group of the genus, and closely allied to the fine *S. asperata* of Kashmir. It was discovered by Schimper in the mountains near Axum, in Abyssinia, at an elevation of 7000 to 8000 feet above the sea, flowering in October, and was introduced by Mr. Bull, who sent the specimen here figured to Kew in July, 1875."—(*Ibid.*, t. 6300.)

ALOË CHINENSIS. *Nat. ord.*, Liliacæ. *Linn.*, Hexandria Monogynia.—"Our present plant is clearly quite distinct specifically from *A. barbadensis*. The leaves are never more than half the length of those of that species, and are spotted more or less copiously both on back and face after the fashion of *A. abyssinica*: the raceme is very much laxer, and the stamens are very much shorter. We have had it for a long time in the Kew collection, and have received it from other gardens, but never, so far as I know, with any definite information as to its native country. The drawing was made from a plant that flowered at Kew this spring. The flowers have a strong and decidedly unpleasant scent. Its affinity is with *A. barbadensis*, *abyssinica*, and *consobrina*."—(*Ibid.*, t. 6301.)

HÆLOPAPPUS SPINULOSUS. *Nat. ord.*, Compositæ. *Linn.*,

Syngenesia superflua.—"A widely distributed native of the prairies bordering the Rocky Mountains, from the boundary of the British possessions as far south as New Mexico, apparently common about the source of the Saskatchewan, Platte, and Colorado rivers. It forms a low corymbosely branched bush, 1 or 2 feet high, with innumerable branches from the root, clothed with small leaves, and bearing masses of flower-heads. One specimen from Mr. Veitch's garden, about 10 inches in diameter, bears nearly a hundred golden heads an inch in diameter, and I cannot doubt but that they will prove a most ornamental hardy garden plant when fully established, preferring, no doubt, a rather dry soil and climate, and flowering, like many other Compositæ, late in the year. The specimen figured was raised by Messrs. Veitch, who introduced it. It flowered with them in August, 1874."—(*Ibid.*, t. 6302.)

LYCASTE LINGUELLA. *Nat. ord.*, Orchidacæ. *Linn.*, Gynandria Monandria.—"Lycaste Linguella is, according to Reichenbach, supposed to be a native of Peru. It was imported by Messrs. Veitch, from whom it was received by the Royal Gardens, where it flowered in January, 1872. It was described in 1871 by Reichenbach, who states that it has a close affinity with *L. ciliata* and *L. lasipes*."—(*Ibid.*, t. 6303.)

TULIPA PULCHELLA. *Nat. ord.*, Liliacæ. *Linn.*, Hexandria Monogynia.—"It is a native of the alpine region of the Cilician Taurus, where it was discovered by Kotschy in 1836, and of course is perfectly hardy. It has only very lately been introduced into cultivation in this country. For the specimens figured we are indebted to the Rev. H. Harpur-Crewe, who flowered it at Drayton Beauchamp in the spring of this present year, and exhibited it at one of the meetings of the Scientific Committee of the Royal Horticultural Society."—(*Ibid.*, t. 6304.)

NEGLECTED ROSES.

THE OLD MONTHLY CHINA ROSE.—Very sorry am I to find that Messrs. Veitch and Messrs. Wood are the only nurserymen who still find space for this old favourite in their Rose catalogue, and I congratulate them upon their courage in retaining a good thing after it has ceased to be fashionable. Exhibition flowers have driven it not simply into the background, but quite out of many gardens; and yet what other sort, even among China Roses, is at all equal to the "old Monthly" in that most valuable property an abundant and continuous production of flowers? Even when the full charms of "Teas," "Noisettes," and "Perpetuals" are before us, the eye wanders involuntarily to the large bushes of the Rose—one cloud of blossom, most charming to the lover of what is really beautiful in nature, but just so many "horrors" to the rosarian who sees no beauty in any flower that is not "large, full, and of fine form;" and in autumn, when most other flowers have passed away and the exhibition boxes are put by till another season of National and Palace contests comes round again, there is still the "old Monthly" as fresh and gay and certainly more conspicuous than ever, imparting an air of brightness, life, and animation that is most pleasing at that season of dullness and decay.

Let it not be thought that I am at all insensible to the high merit of our best exhibition Roses; but, while yielding to them the praise and admiration of which they are so worthy, I hold that they should not be planted to the exclusion of those sorts which, however deficient in the excellencies of prize flowers, possess attractions of no mean order as simple garden flowers.

To have the "old Monthly" in full perfection the pruning knife should never come near it except to restrict its growth within due bounds. We do not look for fine flowers, but rather for a mass of them, which is precisely what we have when it is left to grow into a regular thicket. I have never tried a hedge of it, but I have no doubt it would form an admirable one in a short space of time, that might be kept in good order by clipping in winter to a precise formal outline, the stiffness of which would disappear in the new growth of spring.

BELLE DE BORDEAUX.—Who has not tried to grow this Rose and has not thrown it away in disgust? Glad enough am I to say I have tried, and, after failing to obtain a single good bloom for four years, am this year well rewarded with dozens of really magnificent blooms, every bud expanding into a perfect flower—large, full, and of fine form; the abundant broad recurved shell-like petals being of a rosy pink colour softening to a more delicate tint at the edges, and the under sides of a deep pink hue. The flowers attain an average size of 4 inches in diameter, and the foliage is also very fine, some of the leaves being 5 inches long by 3 broad, so that in both foliage

and flower it has merits which are infinitely superior to those of most other Tea-scented Roses.

I cannot give its history, but I believe it is not at all what we should term an old Rose, and yet when I turn to the catalogues I can only find it in an old one of Mr. W. Paul's, bearing the date of 1871-2. All of them appear to have found it an incorrigible bud-bound rogue—Turner, Veitch, G. Paul, Mitchell, Wood, Rivers, Lane, Standish, Fraser, Henderson, Smith of Worcester; in vain do I turn to any of them. All have turned their backs upon it. Mr. Charles Wood, who grows Roses by the acre and thousands of Tea Roses in pots, when he saw it the other day exclaimed, "Why! I had no idea it was so fine a Rose; we have discarded it as worthless." And, as few nurserymen grow Roses on such an extensive scale as Messrs. Wood, this observation affords conclusive proof that everybody else has also discarded it. I would therefore ask whether there has not been a little undue haste in so doing.

Why have I at length induced its flowers to expand as freely as a Cabbage Rose? Is it because the growth has only been pruned very slightly, precisely as one treats Cloth of Gold? Is it owing to the great vigour of the tree, which is now 10 feet high trained to a wall facing eastwards? Or is it owing to some peculiarity of the present season? Pray tell me, rosarians; and if you have an odd corner or a few square feet of wall space to spare, just give it to a plant of Belle de Bordeaux, and some day you will have a rich treat, and if that treat only occurs in every fifth year it will be well worth waiting for. Moreover, the foliage is so handsome and so superior to that of most other Roses that one might well afford some space even for that alone.—EDWARD LUCKHURST.

IN FLORA'S DOMAIN.

THERE are fashions in the cultivation of plants and flowers as in everything else, and it is often unfortunate that, when a change takes place, what is good of the old style is not retained and blended with the new. My thoughts were turned to this subject in the autumn of last year by seeing a very fine specimen of Magnolia, in full bloom, trained up a house in the Uxbridge road, opposite Holland Park, Bayswater. For some years after the introduction of the Magnolia it was without doubt very popular, and evidently met with due appreciation, for in most suburban gardens of a certain age we are nearly sure to find at least one fine specimen of this handsome evergreen, while the modern villa garden containing such a plant would be a remarkable exception. Indeed so little is the Magnolia known to the general public that last autumn, when the tree before mentioned was in bloom, I was repeatedly asked what the name of the plant was. Fashion after certain intervals, like history, repeats itself. We look forward to the time when the Magnolia shall again flourish in unlimited numbers on suburban house fronts and villa garden walls.

Between two and three hundred years ago, about the time of the Charleses, more particularly during the reign of Charles II. it was evidently a very prevalent fashion to plant Mulberry trees. Many living evidences of this fact exist in and around the metropolis, notably a magnificent tree in Lambeth, which tradition says was planted by the merry monarch's own hands and which has borne the burden of nigh upon three hundred years right royally, giving each summer a most umbrageous shade, and a wealth of fruit not to be equalled by younger members of the same family, in situations which might be supposed to be far more congenial to their healthy development. In what domain or in whose grounds the tree was originally planted history sayeth not; but many changes must have passed around since the time of the Cavaliers, for the tree stands in a strip of garden ground surrounded by houses, and its goodly proportions were some two years ago beginning to fall a prey to the mischievous propensities of many juveniles over whose miniature back gardens it threw its wide-spreading boughs. This noble old tree flourishes on the south side of the Thames in a now densely populated part of Lambeth. Beyond the Mulberry tree already cited many such magnificent trees are to be found in London, but they are all without exception fine old trees. Gardeners of the present generation have forgotten the Mulberry tree with the Magnolia. Effort to be gained by gorgeous contrasts of colour as displayed in bedding-out is the order of the day, not permanent interest in the garden engendered by the growth of perennial plants and trees, offsprings of our care and objects of our tender solicitude and our hopes year by year.

A certain phase of gardening, much in vogue some years ago,

was the growth of semi-hardy evergreens in tubs: a relic may be seen in the fine specimens of Orange trees placed in the gardens of Kensington Palace every summer. At the present time when the exigencies of space and the wants of a rapidly increasing population are compelling us to build towns on a uniform plan of straight fronts and backs, with no gardens, or rather only square air-spaces dignified by that name, with forecourts or areas of damp-proof uncompromising concrete which cannot of course by any possible means be made into a garden, it would be an excellent thing were householders to turn their attention to the cultivation of evergreens, flowering shrubs not necessarily evergreen, and creepers, in tubs and pots.

Among the modern features of town gardening the very general cultivation of the Virginian Creeper is much to be commended; but unfortunately a run has been made upon this plant to the almost total exclusion of other plants quite as suitable and handsomer, in this respect that they are as remarkable for beauty of bloom as for gracefulness of growth.

The Passion-Flower is not exacting in its requirements, and there is no valid reason against its flourishing on the same house front and festooning the same balcony as its American rival. It is not only of a free graceful habit, but it puts forth its particularly conspicuous flowers in positive profusion; and in autumn, when vegetation all around is subsiding into its winter sleep, the Passion-Flower is gay with numbers of bright golden fruits. Then also there is the unique Wistaria, with its graceful racemes of pale lavender blooms and its elegant foliage, which unfolds of an exquisite delicate brown and gradually becomes green. Ivy needs no comment. Those who appreciate its dense foliage and rapid growth will be sure to grow it, while some persons cannot endure the plant from an objection to the strong smell of the leaves when bruised, or its almost inseparable connection with scenes of ruin and decay, as exemplified by the late Charles Dickens's ever-popular poem "The Ivy Green." Although less rapid and rampant in growth than the plants already mentioned, the Japanese Honeysuckle with its small variegated foliage is invaluable for training around windows and along balconies. We might enumerate many other suitable subjects, but for the present let the foregoing suffice as a hint at what may be done even in towns by those who will observe and think for themselves.—T. S. J.

STAMPING OUT INJURIOUS INSECTS.

MY position with regard to the proposal brought forward by Mr. Andrew Murray for the extirpation of injurious insects is rather a neutral one, and there is much that might be stated which would give his theories a somewhat different aspect. Like the old lady, who when charged with stealing a saucepan proved conclusively to the jury that she could not have stolen the article if she would, and then appended the statement that she would not have thought it worth taking if she could have got it, I am not sure that such a thing as stamping out a species belonging to the fauna of a country, and of general distribution, could be done, nor that a very positive benefit would result if it were feasible. A strictly local insect may be snuffed out, as witness the disappearance of the Large Copper Butterfly, so also might a newly arrived visitor which has not succeeded in establishing itself. But the destruction of one pest may be followed by a large accession of numbers in the case of another pest, and arresting the increase of insect enemies has now and then apparently favoured the growth of fungoid or other parasites belonging to the vegetable kingdom. Nor are we always able to answer the question conclusively as to what is or what is not an insect gardeners should view as a foe, for our opinions undergo a change as our knowledge of entomology increases. For instance, there are certain flies of the Dipterous order which frequent flowers, and which had some years ago an evil repute because it was supposed they disfigured the blossoms by biting them. This they may occasionally do; but then we now find that they prey upon smaller species, which, breeding in the leaves or roots of plants, also resort to flowers, but which are kept in check by their particular foes. Other flies, again, long esteemed useless, are of much service in horticulture by their activity in the work of pollen-distribution. The excellent remarks of "A. N. G." in a recent number are deserving of general attention. Prevention is far better than remedial measures, and in the instance of the great bulk of moderately sized plants there is little doubt they are only insect-infested when they have been neglected or are in an unhealthy condition. One unavoidable evil

when we are attempting to eradicate insects while they are in full play is this, that with them we also destroy their natural enemies. Thus I have recently noted how numerous were the ladybirds and Syrphi that fell victims during the removal of aphides from plants. This could not be helped; but if we pushed our warfare against any species to the stamping-out point we might discover at last that we had stamped out the wrong insect.—J. R. S. C.

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

KITCHEN GARDEN.

We were confident that this year our third sowing of Peas would be a great success, as much pains had been taken in the preparation of the ground. It had not been cropped for some time previously, and was in good condition at the time of sowing, but

"The best laid schemes of mice and men
Gae aft aglee,
And leave us nought but grief and shame
For promised joy."

In fact, we have been ashamed of them, until on a visit to Chiswick last week we found the Peas under the care of Mr. Barron in much the same condition, and another first-class gardener said that his crop was in the same unsatisfactory state. Part of the crop was watered, and those rows are even worse than the others. It is not easy to say what is the cause of such a failure, as we have done pretty well with Peas when the weather has been quite as dry in other years. We were so disheartened with our failure that we did not think it worth while to sow for a later crop. What an advantage the Scotch gardeners have over us in this respect. If they are a little later before they gather in early summer, they can continue gathering until the frosts cut down the haulm in October.

There have now been genial showers, which have well moistened the ground and prevented the Potato haulm from dying off prematurely, as it would otherwise have done, as the ground was quite dusty dry. In fact, the growth of some of the later sorts had been checked to that extent that the roots are what is called "growing out," or making a second growth from the tubers which were first formed. The most promising variety of recent introduction is "Schoolmaster." We expect that it will form a valuable succession to the Early Shaws, a variety well known in the London district as the best market round variety. It will come in between the Shaws and Dalmahoy Regents, and promises to be a better cropper than either.

We have been working the Dutch hoe in amongst all growing crops, especially Coleworts, Brussels Sprouts, Savoys, &c. It is no use expecting such crops to give satisfaction if the ground around the plants is not kept loose by frequent hoeing. We would also urge the necessity of great care being taken in the transplanting of all such plants, especially in dry weather. The small fibrous roots are the life of the plants, and how often do we see persons pull the plants out of the seed beds without any care as to whether the roots are wrenched off in the effort or not. Such treatment is most objectionable. To do the plants justice they ought to be pricked-out in beds a few inches apart when the first rough leaf is formed, and the plants should be put out before they are too large, first loosening them with a fork, and instead of planting with a dibber the work may be performed with a small planting trowel, and see that the plants are made firm about the roots, but not to be choked at the neck, as is not unfrequently done when they are planted carelessly with a dibber. As the ground is cleared of summer vegetables we prepare it by digging or trenching for the winter crops.

VINERIES.

At this season the work in this department is reduced to its minimum; but no Vines ought to be neglected altogether. We have already alluded to the importance of cleansing the leaves of red spider; where the fruit has all been gathered the drenchings with the garden engine must be repeated until the pest is destroyed. Thrips do not attack the leaves so frequently as red spider, but if they do so in considerable force the best plan is to close the house and fumigate strongly with tobacco smoke on three successive nights at intervals of three days. We were once very much annoyed with thrips attacking our Vines in the early Muscat house, and were two years in quite eradicating them. When the loose bark was removed from the canes in midwinter scores of healthy full-grown insects were found securely nestled under the bark. Of course this was all removed as much as possible, and the canes were well washed with the mixture we recommend at that season, of which the principal part is strong soft-soapy water and flowers of sulphur. A few appeared the next season, but with their appearance the tobacco smoke came into requisition, and since that time no thrips have nestled on our Vine leaves in summer or under the bark in winter.

It is highly important that Vines in pots intended to be forced

early should be in a place where the buds can be well plumped up while the leaves are yet green, and the strongest canes require the greatest amount of attention in this respect. When the wood is quite brown and hard throughout the length of the cane intended to be forced, and the eyes are prominent, it is a good plan to place the pots out of doors against a wall facing south or west; but do not allow the soil in the pots to become overdry. We never give any manure water, nor do we surface-dress the pots until the Vines have started into growth next season.

CUCUMBERS AND MELONS.

In the remarks on these in the number for July 19th it was stated that artificial heat would not be required for the next six months; it ought to have been six weeks, and even this applies to the south of England only, as the reports from the north are that the weather is very cold indeed, and it is certain that in our treatment of such plants with ripening fruit we must adapt our treatment to surrounding circumstances. Young gardeners especially will do well to take notice of the excellent article in last week's number on Melons. Our own experience has been similar to that of "J. W." We have gained first prizes with green and scarlet-flesh Melons in London, and have, with other fruits that it was necessary to keep longer, been left out without any prizes. The difficulty with us, as we grow but few plants, is to obtain fruit of the proper age on the day of exhibition or to present it on the table when it is most wanted. We are not using any artificial heat, and Cucumbers are producing well and the fruit is of most excellent quality. Melons ripening should have plenty of air admitted, and the house to be kept moderately dry.

PLANT STOVE AND ORCHID HOUSE.

With the advent of August the days have very perceptibly diminished in length, and cold nights are expected. The influence of the sun's rays have not such a burning effect on the plants, and it is well not to allow the blinds to be down, except to prevent the plants from receiving injury; indeed shading such plants as *Ixoras*, *Stephanotis*, and others of this character is very injurious to them after this date. We seldom visit any gardens where the plant stoves are quite free from mealy bug, and our own experience leads us to believe that at this season the pest spreads very rapidly indeed. No opportunity ought to be lost in order to destroy it. We generally attack it with soapy water and a sponge, removing the insects, which are easily killed, and then washing off all the woolly substance and filth that may have accumulated.

Climbing plants, whether permanently trained to the rafters or grown in that way to be afterwards trained to a trellis to form specimens, should have the growths regulated, and these should not be allowed to twine round the wires, else it is very difficult to remove them afterwards without considerably injuring them. When climbers are planted out in borders they generally grow too much wood and do not flower freely. The best way to restrain exuberant growth is to withhold water, even to the point of causing the leaves to flag; this will probably aid in the formation of flower buds, but the drying-up must not be carried to the point of causing the plants to shed their leaves. The showy *Allamanda Schottii* not unfrequently runs more to growth than flower. A drier atmosphere and a lower night temperature is desirable for those plants that are entering upon their season of rest for early flowering next year.

Orchids require very similar treatment as regards temperature and atmospheric moisture to stove plants. *Dendrobiums* and *Cattleyas* must have all the light they will endure without injury from the sun. *Cattleyas* will do without shade altogether except in days when the sun is scorching hot. Those who have a house devoted entirely to this class of plants will be able to give them the treatment best adapted to their wants, but in our little house we have *Anguloas*, *Odontoglossum citrosimum*, *O. phalaenopsis*, *O. hastilabium*, *O. pulchellum*, and others that succeed best in the *Cattleya* house, but many of them will not bear so much sun as *Cattleyas*. If any plants require repotting it ought to be done at once, else the plants will not become established before the dull dark days of autumn and winter. Some plants which were potted a few weeks ago are making strong healthy roots. The cool house requires abundant supplies of atmospheric moisture; but this must not be carried to excess, as we find the young growths will damp off under a saturated state of the atmosphere, especially when the shadings are kept on too much. *Masdevallias* and *Odontoglossum crispum* which were potted early in July are also making very satisfactory progress in the formation of new roots. All plants of this character that require to be kept very moist at the roots require to be repotted oftener than *Cattleyas* and *Laelias*, which do best if the material in which the roots are kept rather dry. We mostly pot our *Cattleyas* once in two years, but some of the best growers will allow plants to remain in the same compost for at least seven years. They say that as long as the plant continues to make strong flowering growths it is better not to pot it. It is quite certain that if suitable compost cannot be obtained it is much better to let well alone. If any white scale

should appear on the pseudobulbs see that it is at once washed off, as it speedily causes the leaves to become yellow and seriously interferes with the health of the plants. Admit as much air as possible, but do not allow the winds to blow directly on the plants. A canvas screen over the ventilators is a wise precaution.—J. DOUGLAS.

TRADE CATALOGUES RECEIVED.

Vilmorin-Andrieux & Cie, 4, Quai de la Mégisserie, à Paris.—*Catalogues of Flower Seeds, Bulbs, and Strawberries.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

EXHIBITING ASTERS AND GLADIOLI (*Giles*).—The best way to exhibit Asters is in a stand, with a neat white card placed under each flower. Gladioli should be exhibited in stands. Those made by Chapman of Gloucester are the best.

CULINARY VEGETABLE (*G. C.*).—The Cucumber is certainly a culinary vegetable, for it is cooked in various ways, and consequently is a kitchen vegetable.

MELON PLANT FAILING (*T. R. C.*).—The plant seems to have ceased producing fibrous roots. The cause we cannot tell. The watering with cold water during a hot day may have been the cause.

AMERICAN PERIODICAL (*A. S. J.*).—Write to Messrs. Sampson Low & Co., Bookellers, Fleet Street.

WANT OF BLUE IN GARDENS.—"A Lady Gardener" observes that we want more blue in our flower gardens. She saw this spring the Red Campan of our hedges made to grow as a compact garden flower, and she wants to know if the same could not be done with the blue-flowered *Cichorium Intybus* (wild Chicory or Succory).

KLEINIA REPENS (*J. B.*).—Send your address to Mr. C. Chisholm, 300, King's Road, Chelsea.

CINERARIAS (*Amateur*).—Sow the seed now on light soil previously moistened, and cover very slightly with very fine soil; place in a frame or shady position in the garden, covering the seed pot or pan with a square of glass, and place the pan in a saucer containing a little water. The soil must never become dry, and the seedlings will soon appear and be ready for pricking-off or potting. As slugs ate your first lot of seedlings you must take special care of the second. Sometimes when a pan is placed in water the soil becomes too wet, but your plants will be equally secure against slugs if you invert a flower pot in a deep saucer of water and place the seed pan on the inverted pot.

ROSES (*George*).—We cannot name varieties. (*Turkey*).—We cannot tell the name of the grubs unless we saw live specimens. Dusting with lime might destroy them, and syringing the trees the next day would remove the whitewash.

FUNGUS ON LAWN (*A Very Old Subscriber*).—Sprinkle common salt over the places where the fungus grows. We should remove the fungi before using the mowing machine.

ROSES FOR A TOWN GARDEN (*Stephen*).—Yes, you may use charcoal advantageously, but remember plenty of rich manure is the mainspring of success. In your somewhat unfavourable position for Rose culture it will be best to confine yourself to varieties of robust growth. Here are a dozen such—Gloire de Dijon, John Hopper, Paul Neron, Boule de Neige, Madame C. Joigneaux, Baronne de Rothschild, Charles Lawson, Paul Verdier, Anna Alexieff, Gabriel de Peyronny, Countess of Oxford, Charles Lefebvre, and Reine du Midi, to which add the old Cabbage Rose, very pretty and very sweet-scented. November is the best month for planting. Consult your own taste as to what form of trees you plant, dwarfs and half-standards being quite upon a par as regards freedom of growth and production of bloom.

ROSE LEAVES INSECT-EATEN (*J. E. Coleby*).—They are attacked by the grubs of a small moth called *Microsetia centifoliella*.

WIREWORM INFESTING CORN CROPS AND POTATOES (*Sigma*).—Gas lime, of which you have been advised, is a capital application. It may be applied in March at the rate of twenty bushels per acre, or in autumn at the rate of thirty bushels. If applied in autumn it may be ploughed under, but if in spring it should remain on the surface until after rain, the ground being then worked prior to sowing or planting. Grain crops may have a dressing of nitrate of soda when the crop is well up, at the rate of 1 cwt. per acre, or twenty bushels of salt, but the nitrate of soda is the most powerful agent in the destruction of vermin.

WATER LILY PLANTING (*H. B.*).—The best time to plant is in spring from March until May, so that the plants may become well established before winter. The roots should be in not less than 1 foot depth of water, and not exceeding 3 feet. If the bottom be soft a stone or half brick may be secured to the root-stem with wire, and the plants be dropped or thrown into the water where required; but should the bottom be hard the plants should be planted in strong loam in shallow wicker baskets. The plants will be established before or by the time the basket decays. They must be secured to the bottom by some means to prevent them floating. There are a number

of kinds of Water Lilies—viz., *Nymphaea alba*, common white Water Lily; *N. odorata*, very sweet, and a variety of it, *N. odorata minor*; *N. candidissima* is noted for its pearly whiteness, *N. pygmaea* for its smallness of growth, and *N. tuberosa* for its large root-stems. The yellow Water Lily is *Nuphar lutea*, another good kind being *Nuphar advena*, and a very dwarf kind, *Nuphar pumila minima*. One of the sweetest of aquatics is *Aponogeton distachyon*, which with its small form minor is also very suitable for growing in a pan in the greenhouse.

MILDEW ON GOOSEBERRY BUSHES (*Idem*).—It is probably due to dryness of the soil, and the remedy will be a more liberal dressing of manure annually, or copious applications of water with liquid manure in dry weather. Syringe the trees with a solution of soft soap, 2 ozs. to the gallon of water.

GERANIUM LEAVES PERFORATED (*A. Boyle*).—The leaf is perforated by some insect, probably a weevil or beetle, which usually commit their depredations at night. We should place a white cloth on the ground and shake the plants over it after dark, when the pests may fall on to the cloth. We should also water the plants overhead with paraffin water just after dark, allowing a wineglassful of the oil to three gallons of water, stirring well up and letting it stand twenty-four hours, then skim off the oil rising to the surface, and then use the water, taking care to thoroughly clear it of the oil before use.

STRAWBERRIES FOR FORCING (*C. M.*).—The best varieties are Keens' Seedling, President, Sir Charles Napier, and Sir Joseph Paxton. It is not desirable to keep the plants very dry in the winter—just sufficient to keep the roots in a healthy growing condition. If the small rootlets suffer from overdryness the crop of fruit will be jeopardised.

PROPAGATING ROSES FROM CUTTINGS (*Flora*).—October is perhaps the best month for this, but they may be put in at any time when the wood is firm. The cuttings ought to be taken off at the base with what gardeners term a heel. If a quantity of cuttings have to be inserted we would place some suitable soil in the frame and then plant out the cuttings in it. Keep the lights close until they are rooted. When inserting the cuttings press the soil (which ought to be two parts loam, one leaf soil, and one of sand) firmly round the base of the cuttings. Some sand should be placed on the surface before inserting them.

VINES ATTACKED BY PHYLLOXERA VASTATRIX (*C. T. D.*).—There is no remedy for this disease, and no one ought to tamper with it. The wisest plan is to root the Vines out and burn them, removing the soil to a safe distance from any Vines. Not a single bit of root ought to remain in the ground.

SOWING CABBAGE SEED (*G. N. R.*).—The Fulham or Early Battersea, Nonpareil, and Atkins' Matchless are as good as any. A sowing should be made about the 21st of July for final planting-out early in September, many plants of which will be turning in between Michaelmas and Christmas and in early spring. The second and most general time of sowing, to raise plants for almost the whole year's supply, and of any kind, including the Red Dutch and its varieties, is from the 12th of August, and the seedlings may remain in the seed bed all the winter if not too thick, or any number may be finally planted in the open quarters from October to November, or pricked-out into nursery beds, banks, &c., so as to have a good stock of plants for final planting-out whenever favourable opportunities offer. The soil should be soaked with water twelve hours before the seed is sown, for after raking and forking it is thus rendered less liable to become hard and surface-bound. The seed should also be soaked twelve hours previously to sowing in dry weather. In hot dry weather the evening is always the best time to sow, not covering the seed more than a quarter of an inch; and the seed beds should be slightly shaded with boughs, straw, or any other article of a similar description, until the young plants are just appearing above the surface, when the covering must be removed. A slight sprinkling of water must then be applied and a top-dressing of charcoal dust, so that it may adhere to the young plants while moist, which will not only prevent the attacks of the fly but promote growth. When about 8 inches high thin the seedlings to 4 inches apart, and prick out those removed into beds prepared as for the seed bed, planting them 4 inches apart. We never make but two plantings in the year: one from the 21st of July sowing, which planting is made during the first fortnight of September, and the second planting is made in the spring, towards the end of February or beginning of March. Plant in rows from 1½ to 2½ feet asunder each way, the smaller earlier kinds being planted the closest.

SQUIRRELS (*A. O. W.*).—The gun is your only resource to preserve your nuts from squirrels.

SOOLY QUA CUCUMBER (*South Wales*).—We do not know of its being eaten raw, but we do know of its being boiled and eaten with rice, melted butter, &c.

FUCHSIA SUNRAY.—"B. C." wishes to know if this is "an intermediate variety or a self."

ROSES (*P. B. C.*).—The small pink Rose is Manetti. The white is very common and useful, but we never heard it named.

GRAPES CRACKING (*Clericus*).—The Chasselas Musqué and Madresfield Court are very liable to have their berries crack. Allow the Vine to have a full crop, keep the roots rather dry when the fruit is ripening, and, if the berries still crack, cut a notch in the branch below each bunch to reduce the supply of sap to it.

HOP PLANT DYING (*J. Huish*).—Examine the roots; something has probably destroyed them, as the other Hop plants are healthy.

AQUILEGIAS.—"J. B. J." asks, "Where can I get plants of the Aquilegias mentioned by your correspondent Mr. Addison? The *A. glandulosa* flowers very freely here, and is beautiful. The soil requires to be very rich."

SIX DIFFERENT KINDS OF FRUIT (*J. F.*).—Two varieties of Grapes ought not to be admitted in the class so restricted.

NAMES OF PLANTS (*J. A.*).—The Bog Pimpernel (*Anagallis tenella*) (*Somerset*).—1, *Geranium sanguineum*; 2, *G. sylvaticum*; 3, *Veronica spicata* (white-flowered variety); 4, *Santolina Chamæoparissus*; 5, *Hemerocallis fulva*; 6, *Lilium martagon*. (*A. H. S.*).—1, *Catasetum deltoideum* (?); 2, *Eulophia* sp. (*A. Novice*).—The shrub is commonly called Southernwood, *Asteris abrotanum*. The fleshy-leaved plant is *Sedum azoideum* variegatum. (*R. T.*).—The Fern is *Adiantum trapeziforme*. (*D. G. R.*).—1, *Oxalis* sp.; 2, *Yarrow* (*Achillea millefolium*); 3, *Centaury* (*Erethraea Centaureum*); 4, *Heracleum Sphenodyllum*; 5, *Cherophylhum temulum*; 6, *Tradescantia virginica*. (*F. T.*).—1, The Acer seems to us only *A. pseudo-Platanus*; 2, *Trifolium procumbens*; 3, *Lathyrus pratensis*. (*Helena*).—We cannot name florists' varieties. No. 1 has no fructification.

POULTRY, BEE, AND PIGEON CHRONICLE.

LABELS.

Worse than ever grows this grievance. It surpasses, if it is possible, the catalogue difficulty. The latter, however, we have, as far as we are concerned, simplified by never ordering a catalogue at all, as it seems to us needless expenditure to put several pence into a society's pocket for no derivable good whatever. The label trouble, however, is less easy to deal so summarily with, for if once fanciers exhibit—labels and their consequent difficulties have to follow. Labels fail to arrive at all—not in an isolated instance, as that may always occur with any show by some postal mistake or by the secretary's overlooking a name accidentally; but some half-dozen or so at one time fail to arrive. Again, when the birds ought to have been near the end of their destination the labels sometimes come, when they are quite useless for that show. Now, in such cases what has to be done? Provided a receipt has been previously forwarded, it is generally safe to send the birds on to the secretary's care; but these label mistakes seldom occur at exhibitions where receipts are forwarded, for those are too well worked; but when no receipt has been sent, and no labels come to hand, what should be done? How can the exhibitor know the entries have ever been received, and that accommodation has been provided for the exhibits? We know this same difficulty happened the other day to Mr. Darby. He had entered eight pens for Bath, and had sent the 40s. to pay for the entries. The latter never reached Mr. Goodwin, so he could not send the labels. Mr. Darby, however, had often before received his labels late, and so he imagined this to be another such case, and so he sent on his birds. On their arrival they had never been entered, and he had incurred labour, trouble, and expense for nothing. Now, had all secretaries a general rule that receipts were to be sent for all entries, and this was understood, then the non-arrival of labels should generally mean that the entries had never come to hand or not been accepted. There are, however, some societies which accept entries long after the advertised date of closing—take them, in fact, so near to the date of the show that it is impossible to get the labels sent away in time to reach their destination when they are required. These post entries, however, are not so much in vogue as they were, for we have heard of many lately who had their entries returned for being too late. We are extremely glad of it, for, apart from the label annoyance it frequently causes, the system is not fair to those who have entered in the due time.

Another objectionable practice we have to condemn among the label managers of exhibitions is the plan of writing the address upon them before they are forwarded to the exhibitors. It is odious for several reasons, especially because the postal address and the train address of many people are often quite different. We know, for instance, a village, the post town of which is Bath, and yet the inhabitants have no less than twenty or more stations which are much more convenient to them than their post town's. Again, some may want to send the birds on to another show, or to some friend who keeps them for them; or again, some exhibitors may have a town address where their place of business is, while they themselves live out in the country and keep their birds there, so if a label comes disfigured by being addressed, as we have often had them, it is difficult to write the desired address upon them plainly. We have had, too, one single label addressed and stamped with a halfpenny stamp, and then sent us by post without any envelope or wrapper. Can any plan be more stupid? It is a great chance that it gets lost in transit through the many hands it naturally would have to pass. Another most objectionable sort of label is a one-eyed one, where it is possible to affix by one end only. Plenty of cases are on record to tell how such a label has failed entirely in its object. We remember two or three summers ago sending a basket of birds to the Middleton Show; the label had but one eye, and was consequently fixed but in one place. On one side was the show address, while our own was written on the other side for the return of the basket at the close of the show. The basket got as far as Crewe, when the parcel clerk, looking into the van, saw the basket of birds and read the side of the label for the home journey. Out of the van he took them, and back went the birds to London. "How quickly they have come back this time," said our poultryman: very quickly, but they had never seen at all the smoky country of Middleton. And so we could tell of other instances, most of which could have been obviated by a properly-made label. Some societies, again, send labels as large as a cheese plate, others about as small as a crown piece; very likely neither of them with the county printed at all. Those committees surely must forget that there are scores of little stations in England which are used by exhibitors where the porters or booking clerks are of such simple education as to be perfectly ignorant of the locality of many towns. It would tire us to tell of instances where we have heard how

trains have been missed or birds misforwarded from want of proper knowledge on the part of the railway officials as to the county where the package had to go to. Once we remember we had long hoped for a certain cup at Fakenham. The label had no county on it, and the parcels clerk had no more idea than the fowls themselves where Fakenham was. The train was moving from the station, he afterwards told us, and he did not know what to do, so in a fit of despair he popped them into the train, labelled "via Reading." He could not have made a worse shot, and it is needless to say the coveted cup did not fall into our hands.

And so from all these little things we can collect into one idea what a label should be to be of general service. It should be made of stout linen of a medium size, with an eyelet hole at each end; it should be printed clearly with the name of the county, and it is of no advantage to see, as we frequently do, "To the Poultry Exhibition" printed in gigantic capitals, while the name of the town or village is in modest little letters underneath. Above all, the labels should be despatched at least four days before the show is to take place, and sooner if possible. They should be printed reverse ways, on the back and front, so that at the close of the show when the packer turns the double label over to send off the birds he may find that the printing always turns over in a way to be at once legible. We have a vast number of important shows coming on in the next three months, and we hope they will in their label arrangements set an example to the smaller exhibitions, that complaints of this particular kind may be less constant than they have previously been. We are sure this is not a trouble of all cry and no wool, for we have on our table before us some dozen letters of the past month alluding to the subject in some form.—W.

BRADFORD, TONG, AND DUDLEY HILL
POULTRY SHOW.

THE annual Show was held at Dudley Hill on the 28th inst. in the Cricket Grounds. The poultry were shown in the open field in Turner's pens, and unfortunately the day proved wet. Some of the classes were badly supported with entries, but the quality was good, *Game* being a fair section, and the awards correctly made. A class was provided for single hens, the first going to a grand Silver Polish, and second to Spanish. *Hamburghs*, for the few shown, were really good. *Game Bantams* very good. Piles first and Black Reds second.

In *Pigeons*, which mustered better than poultry, there were many well-known winners. The Carriers very good. First a young Black cock, which should have yielded to a grand Black hen from the same loft, but which was taken for a cock by the Judges. Tumblers.—First Black Bald Long-face, second Blue Short-face, the latter capital in head but foul on thigh. In Antwerps first was a capital Dun, second a better-headed Red, but not so good in colour. Owls (English) very good. In the Dragoons the winners were Blues; but we preferred Pen 3, a grand Yellow hen.

Rabbits (Lops) ten entries, among which were some very good animals. In the Variety class first was a Himalayan, second Silver-Grey, and third a Grey Dutch; but the best Silver in the class was Pen 13 (Burton).

POULTRY.—SPANISH.—1, J. Thresh. DORINGS.—1, H. Beldon. COCHIN-CHINA.—1, C. Seligman. 2, W. Mitchell. GAME.—Black-breasted or other Red. 1, W. Schofield. 2, H. C. & W. Mason. Duckwinged or other Grey or Blue. 1, H. C. & W. Mason. Black, Brassy-winged, or Pile.—1, H. C. & W. Mason. 2, R. Walker. Hen.—1, H. Beldon. 2, W. Kirth. *vhc.* J. Hoigson. HAMBURGHS.—Golden-spangled.—1, H. Beldon. 2, B. Rawnsley. Silver-spangled.—1, Fawcett & Anderson. 2, H. Beldon. Silver-pencilled.—1, B. Rawnsley. 2, H. Beldon. POLISH.—1, H. Beldon. 2, J. Rawnsley. BRAHMA FOOTRA.—1, H. Beldon. 2, W. Schofield. *vhc.* H. W. & H. King. BANTAMS.—Game.—1 and 2, W. F. Entwistle. Any other variety.—1, J. F. Crowther. 2, H. Beldon. ANY BREED.—Cock.—1, H. Beldon. 2, J. Rawnsley. GEES.—1, H. Beldon. 2, J. Rawnsley. DUCKS.—Rouen.—1, J. Newton. 2, J. R. Pollard. Any other variety.—1, J. Newton. 2, H. Beldon.

PIGEONS.—CARRIERS.—1, J. Booth. 2, J. Wright. TURBITS.—1, H. Beldon. 2, T. Holt. *vhc.* S. Dewhurst. TUMBLERS.—1, J. Thresh. 2, B. Rawnsley. *vhc.* W. Lund. JACOBIANS.—1, T. Holt. 2, G. S. Burton. FANTAILS.—1, H. Beldon. 2, J. S. Richard. CROPPERS or FOOTRA.—1, H. Beldon. ANTWERPS.—1, E. Torsoff. 2, W. F. Entwistle. *vhc.* A. Brook. NUNS.—1, H. Beldon. 2, H. & J. Tetley. OWLS.—English.—1 and 2, J. Thresh. *vhc.* J. Ingham. ANY OTHER VARIETY.—1, J. Thresh. 2, H. Beldon. DRAGOONS.—1 and 2, W. Lund.

RABBITS.—SPANISH.—Buck or Doe.—1 and *vhc.* C. Clouch. 2, Found and Chappel. COMMON.—Buck or Doe.—1 and 2, J. Oddy. ANY OTHER VARIETY.—1, J. Robertshaw. 2 and 3, J. S. Swithenbank. *vhc.* G. S. Burton.

JUDGES.—Messrs. Cannan & Dixon.

BOSTON POULTRY SHOW.

THIS Exhibition, which we are informed was a very good one, was held on the 26th and 27th ult. in connection with the Show of the Lincolnshire Agricultural Society. The following awards were made by the Judges:—

POULTRY.—DORINGS.—1 and 4, J. Hornsby. 2, J. Walker. 3, B. Smith. GAME.—Red, or any other Dark colour.—1, C. Chaloner. 2, W. G. Waters. White Piles, or any other Light colour.—1, C. Chaloner. 2, W. G. Waters. COCHINS.—1, R. P. Perrow. 2, J. Walker. 3, Dr. E. Snell. BRAHMAS.—1, J. F. Smith. 2, J. Walker. 3, Dr. E. Snell. SPANISH.—1, R. Newitt. 2, E. Biggadike. HAMBURGHS.—Spangled.—1, J. Long. Pencilled.—1, C. W. Gibbs. 2 and 3, Dr. E. Snell. HOUDANS.—1, J. E. Pilgrim. 2, Rev. A. B. Shipworth. 3, Mrs.

Cross. CREVE-CŒURS.—1, C. W. Gibbs. 2, Robinson & Myers. POLANDS.—1, R. Newbitt. 2, J. Long. BANTAMS.—Red, or any other Dark colour.—1 and 3, R. Newbitt. 2, J. Atkinson. Any Light colour.—1, R. Newbitt. 2 and 3, W. Roe. ANY OTHER VARIETY.—1, J. Long. 2, Dr. E. Snell. 3, Mrs. Cross. SELLING CLASS.—Cock.—1, J. T. Codrington. 2, R. Newbitt. 3, C. W. Gibbs. 4, J. Long. Hens.—1, J. Hornsby. 2, W. Roe. 3, Mrs. Cross. 4, J. Long. GEESE.—1, Dr. E. Snell. 2, J. Walker. 3, B. Armitage, jun. Ducks.—Aylesbury.—1 and 3, J. Walker. 2, Dr. E. Snell. Rouen.—1 and 3, J. Walker. 2, W. Bygott, jun. Any other variety.—1 and 2, J. Walker. TURKEYS.—1, J. Walker. 2, Mrs. Grundy. GUINEA FOWLS.—1, Dr. E. Snell. MISCELLANEOUS SELLING CLASS.—1, R. Newbitt. 2, W. G. Waters. 3, W. Bygott, jun. 4, Dr. E. Snell. 5, J. Hornsby. PIGEONS.—CARRIERS.—1, H. Yardley. TUMBLERS.—1 and 2, H. Yardley. FANTAILS.—1 and 2, J. F. Leversidge. ANY OTHER VARIETY.—1, H. Yardley. 2, R. Foster.

WHITCHURCH SHOW OF POULTRY, &c.

THIS Exhibition was held in a covered tent in connection with the Salop Agricultural Society's Show. The entries were not large, but the quality in most classes was excellent. Mr. Dixon of Bradford and Mr. Lane of Birmingham awarded the prizes.

Dark Dorkings opened the catalogue. The cup went to a large pair shown by Mr. Walker; they were square-shaped good specimens. The cock in the second pen had a bad comb, while the third were but a fair pair. The next class, for Silvers and Whites, had no entries, and the former one had only five pens. Brown and Partridge Cochins followed, where again there were only five pens, and Messrs. Percival's and Wood's being empty Mr. Tudman walked his three pens in for the three prizes. Of Buffs there were six pens, and for the time of the year the quality was good; pen 12 (Darby) were a little faded in colour, or else as good as any pen. In the next class Blacks and Whites met together. There were three pens of the latter colour and one of the former. The cocks here were in better plumage than the hens, the first-prize bird being in grand feather, and was the same bird we fancy which we saw at Banbury. In Dark Brahmas, of which there were eight pens, the cup pen was good and very silvery in colour; the second pen, too, belonging to the same exhibitor, were of much merit, as too was the highly commended pen (25) of Mr. Aspden. In Light Brahmas a pen of chickens came in second. There were half a dozen pens of this colour. Game made fine classes, as is usually the case in this district; not many pens, however, save the winners were in good condition. The cup pen of Black Reds were splendid, being really good all round. In Brown Reds the winners were well chosen; and in the next class a fine pen of Piles won easily, second and third going to good Duckwings. Spanish made only six entries, five of which were noticed. The cup pen was good, the winning hen being excellent. In Spangled Hamburgs Gold, Silver, and Gold won in this order. All the three pens were in good trim. Pens 76 (Rawnsley) and 77 (Beldon) were two excellent pens of Golds. In Pencils Mr. Beldon won the cup with a smart pen, both birds in good feather and condition. French had nine entries, where the quality was good. Crêves won first, and good forward Houdan chickens second, Crêves being third again. Game Bantams produced fourteen pens, of which Messrs. Fraser's, Cock's, and Adams's were without occupants. The cup went to capital Piles five months old as the catalogue terms them; second were Duckwings; and third pretty Black Red chickens. In the next class good Blacks were first and third, while a charming pen of Silver-laced came in between them. In the Variety class, which contained ten entries, Silver Polands of grand quality came in first, very lustrous Black Hamburgs being second, and Scotch Greys third. 124 (Darby) were good Black Polands; the cockerel had a large crest, but not a very prettily-shaped one. In the chicken class, which comprised twenty-two pens, Dark Brahmas were first, Brown Red Game second, and Houdans third. Turkeys had four pens. The winners were very large and in good condition; second were a large pair also, and third went to good Cambridge. Geese made five pens; the winners were large birds, all of fine quality. Aylesbury Ducks made only four pens, the winners large and clear in bills; second not quite so heavy in appearance, but very good. The Variety Duck class was truly excellent. Of the other nine pens seven won cards from the Judge.

The Pigeons were of fair quality in most classes. The Fantails especially good; a sweetly pretty pair of young Whites were first, and another good pen of the same colour were second. Nuns only brought three pens and Barbs the same number, and Pouters again only a trio, and we are afraid many of these classes will bring much loss on the Committee. In Owls the winners were very pretty and good; the second Blues we much admired. In the Variety class fine Black Trumpeters were first, very fair Red Turbits second. Of Dragons there were eleven pens, Mr. Wood's taking both honours with excellent Blues and Yellows. Antwerps, too, made a large class, and here Duns of fine quality came in first.

POULTRY.—DORKINGS.—Dark.—Cup and 1, J. Walker. 2, Mrs. R. E. Jones. 3, T. Brocklebank. COCHINS.—Brown and Partridge.—Cup, 1, 2, and 3, E. Tudman. Cinnamon and Buff.—1, H. Tomlinson. 2, R. P. Percival. 3, F. Robertson. Any other variety.—1 and 3, A. E. W. Darby. 2, R. P. Percival. BRAHMAS.—Dark.—1, Cup, and 2, J. F. Smith. 3, E. Pritchard. Light.—1, R. P. Percival. 2, C. J. Naylor. 3, H. C. White. GAME.—Black-breasted Red.—1,

Cup, and 3, S. Matthew. 2, R. Ashley. Brown-breasted Red.—1, R. Ashley. 2, T. Burgess. 3, J. White. Duckwings, or any other variety.—1, S. Matthew. 2, W. C. Phillips. SPANISH.—Cup, J. W. Holden. 1, J. Boulton. 2, S. L. Edwards. 3, J. F. Sillitoe. HAMBURGERS.—Gold or Silver-spangled.—1, T. Blakeman. 2, Ashton & Booth. 3, S. R. Harris. Gold or Silver-pencilled.—1 and Cup, H. Beldon. 2, J. Rawnsley. 3, W. L. Bell. FRENCH FOWLS.—1, L. Booth. 2, C. J. Naylor. 3, H. Feast. BANTAMS.—Game.—1 and Cup, W. F. Entwistle. 2, G. Hall. 3, J. Platt. Any other variety.—1, Ludlow & Backham. 2, M. Leno. 3, Morris & Cameron. ANY OTHER VARIETY.—1, H. Beldon. 2, Rev. W. Serjeantson. 3, W. B. Etches. Chickens.—1, E. Pritchard. 2, W. Perrin. 3, C. J. Naylor. TURKEYS.—1, W. Wykes. 2, S. H. Stott. 3, S. Jones. GEESE.—1, J. Walker. 2, S. H. Stott. 3, J. K. & R. R. Fowler. Ducks.—Aylesbury.—1, J. Walker. 2, J. K. & R. R. Fowler. 3, J. Hedges. Rouen.—1, J. Walker. 2, S. H. Stott. 3, F. Robertson. Any other variety.—1 and 3, Rev. W. Serjeantson. 2, J. Walker. SELLING CLASS.—1, J. Derricourt. 2, S. L. Edwards. 3, J. Parker, jun.

PIGEONS.—TUMBLERS.—1 and 2, H. Yardley. CARRIERS.—1, H. Yardley. 2, J. E. Butler. FANTAILS.—1 and 2, Rev. W. Serjeantson. NUNS.—1, H. Meares. 2, Miss C. Brooke. BARBS.—1, H. Yardley. 2, S. M. Morris. ANTWERPS.—1, W. F. Entwistle. 2, H. Yardley. DRAGONS.—1 and 2, R. Woods. POUTERS.—1 and 2, H. Pratt. OWLS.—1, E. Lee. 2, H. Yardley. ANY OTHER VARIETY.—1, C. A. J. H. Pearson. 2, J. E. Platt.

THE SILVER-GREY RABBIT.

THE Silver-Grey, although one of the smaller breeds, is considerably larger than the Dutch or Himalayan varieties. Seven and 8 lbs. are the usual weights of good healthy full-grown specimens, anything above 8 lbs. being an exception to the rule. The appearance is neat and pretty, rather stumpy and well-conditioned, with an arched back. The legs are well set and strong, the head rather small and inclined to be sharp at the nose. The eyes are usually of a dark colour, and very brilliant in appearance. The ears are short and erect without any tendency to lopping, although they occasionally fall a little outwards. The best appearance is that of the common hutch Rabbit, with the ears nearly parallel and falling rather forward than otherwise. The whole form is neat, and seldom fails to attract admiration.

The variety may, for the purpose of description, be advantageously divided into two parts—the dark shade and the light. Opinions differ as to the more valuable, public esteem having veered from one to the other and back again until now the shade most admired is a mixture between the two. To such an extent has the shade question been worked that prizes are to some extent monopolised by certain strains, although as some judges prefer one shade and some another, while others prefer a mixture of the two, the monopoly is not likely to do much harm or to check their culture. The shade is decidedly peculiar, and the appearance is often strange before a close inspection has shown how things are; the fact is, the animal has two distinct qualities of hair—a light and a dark. The latter is almost black and rather short, hence when born the animal is black. The other hairs are of a silvery shade—a sort of bluish grey; these are much longer, and do not make their appearance until the Rabbit is a month or two old. The great points to be aimed at are first a good shade, and secondly uniformity of shade. The former may generally be obtained by care and diligence, but the latter desideratum is not a goal easy of access. Fancy, that fickle and hard-to-be-pleased goddess, calls loudly for dark nose, ears, and toes in the Himalayan, and, like the man in the fable who blew hot and cold with the same breath, calls equally loudly for uniformity in these points with the remainder of the body in silver-grey. The head is generally a shade darker than the body, especially among the darker or Chinchilla variety. It does not detract at all from the animal's beauty, and, except in very close competition, does not tell much against it, provided of course that the comparison is not very obvious and that the shade is good. The nose often gives much trouble, there being two crimes of which it is occasionally guilty. In the first place it sometimes has a white spot upon it, and this is a heinous offence, not only to the fancier but also to the casual spectator, as it detracts considerably from the beauty. Then again it will sometimes refuse to "silver," as the fancy call it. The longer and lighter hairs do not make their appearance, and hence the short and black are only visible, and the nose retains its pristine blackness, and that which would make the heart of the Himalayan breeder dance for joy has a very contrary effect upon the keeper of Silver-Greys. The feet, too, sometimes err. It is rare that these members are too dark, but they not unfrequently present a scraggy grey appearance that is far from being proper. As to the colouring of the belly and under quarters, it is of course much lighter and often approaches pure white. There is a great variety of shading; the best of all, in our opinion, is the uniform medium shade, as preferable to the heavy or mealy, while of the two latter we prefer the former.

In order to obtain the desired strain very careful breeding is required, and as the strains generally breed pretty true if reasonable care is employed there need be little fear of success. The crossing of a heavy swell with a mealy doe will often produce the desired shade. Beware always of white noses, and if possible keep them from the breeding stock. There can be but little doubt that this is the result of a cross, however far back, and these remote crossings give much trouble to eradicate.

The Silver-Grey is very prolific. The litters will be as frequent as discretion calls for them, and the number of young may generally be relied upon to exceed half a dozen. The doe

is a most zealous and anxious mother, preparing her nest with forethought and skill, and tending her little black progeny with great attention. The young are born perfectly black, and remain so for some time, the period of "silvering," or the growth of the longer hairs, being dependant chiefly upon the atmosphere in which the animal is kept, a warm congenial temperature being calculated to hurry on the process, while a cold unfriendly climate will have the effect of retarding it.

The Silver-Grey is easily tamed and soon becomes accustomed to its feeder, resenting any change. It is described as being unusually docile; but while frankly giving it a name for being a tame pleasant animal, we can hardly go so far as to point out its docility as a speciality. They will not agree together when full grown, being decidedly pugilistic to one another. The doe will protect her young jealously, and will attack any intruder.

The skin of the Silver-Grey is its chief mercantile utility, being very useful for muffs and the like. The flesh is very good, and as the animal will attain a large size and put on flesh very readily it will do well as a pot animal. It is thus seen that Silver-Grey keeping is by no means an unprofitable investment.—G.E.T.

THE PRESENT BEE SEASON.

THE letter of "B. & W." at the end of May would have tempted me to ask you to insert a letter in your next issue, taking a different and more hopeful view of our prospects, had it not come from so high an authority on bee subjects. The state of affairs at the end of May this year was certainly better than 1876, which subsequently proved a splendid honey season, and I fondly hoped for a similar turn of affairs this year. This, indeed, we had as far as June was concerned, nearly every day from the 4th to the 20th yielding a large crop of honey. Then came the usual cessation, which has continued till the present time, and seems only too likely to continue unless we very soon have dry and very hot weather. The latter, I think, is the great desideratum for bee-keepers. This, I believe, explains why "B. & W.'s" hives, as well as everyone else's, seem to be almost empty of bees compared with what they appeared during the hot weather of June. Should the weather now become thoroughly hot for a week or two, I believe all bee-keepers who have not noticed the effect of sudden hot and fine weather would be surprised as well as delighted at the result; of this I feel certain, after carefully reading my notes of last season, when honey was gathered until the 8th or 9th of August. If cold and damp weather continues, however, the only possible success of this season remaining must come from the moors. My experience of 1875, with its splendid May and nothing afterwards, does not make me altogether anxious for early seasons. The earlier the season—i.e., the spell of hot weather, the sooner, as a rule, it is over, and the longer will the bees have to live on their stores.

As following-up the subject of Mr. Pettigrew's letter of the week before last, I will state the result of queen-raising in my unicombe hive last year and this. In 1876, on July 15th, I removed the queen with a few bees, placing them in a hive of brood from which I drove its own bees. Good results followed with both these hives. The new queen was hatched on the thirteenth day, the egg from which she was raised being, as I supposed, three days old when started. The other queen cells, nine in number, were at once destroyed. This year, on the afternoon of June 30th, I removed all the combs and the queen from my observatory, giving the bees two large combs of Italian brood. Next day I found queen cells commenced on both combs. Thinking it impossible for a queen to emerge from her cell earlier than the thirteenth day, I intended to remove these combs on the twelfth day and use the young queens in other hives; but on the morning of July 11th—i.e., a little over ten days after introducing the combs, I found a young queen at liberty, and all the cells on the same frame torn open. In the middle of the same day I removed the other comb with four queen cells uninjured (the new queen not having found them), and gave them to other bees. I thus proved without doubt that it was the young queen herself who commenced destroying her rivals. But will some more experienced apiarian kindly tell me what becomes of the theory that a queen takes sixteen days to hatch, and that the process must be commenced before the egg is over three days old?—J. B., Maiden Newton, Dorset.

HONEY SEASON IN NORTH STAFFORDSHIRE.

"I SHOULD like to know what sort of season this has been for bees in the southern parts of England. It has been a very bad one in this locality (North Staffordshire). Swarming commenced here on the second week of June. Half the number of hives in this neighbourhood never swarmed at all. From eleven stocks I have had six swarms only. Two of my non-swarmers have filled ekes and are again clustering outside in great numbers.

What must I do with them? Would you put more ekes under them?—R. W. J."

If our correspondent intends to take his bees to the heather, which is plentiful enough in North Staffordshire and the adjoining county, his hives should be eked or supered before their removal. His non-swarmers are strong in bees and capable of great feats on the moors. Bees do not usually gather much honey from clover later than July; ekes, however, may be used for shelter to the clustering bees. By-and-by the bees will sit more closely together, when the ekes may be removed.

We hope some of our friends in the south are able to send better accounts of bee-keeping this year than those of Staffordshire and Cheshire.—A. PETTIGREW.

OUR LETTER BOX.

FOWL'S FOOT SWOLLEN (*J. Hobbs*).—Have the floor of the fowl house covered 2 or 3 inches deep with sand, and do not let the fowl roost, but sleep on the sand.

MALAYS AT THE ALEXANDRA PALACE.—I have received the following amounts towards the prizes in the Malay class:—Mr. Stanley, 10s.; Mr. S. B. Perry, 7s. 6d.; Mr. A. Smith, 5s.; Mr. G. Burnell, 5s.; Mr. Lecher, 10s.; Mr. Hawkins, 2s. 6d.; J. Hinton, 5s.; Mr. T. B. Lowe, 5s. I shall be obliged to any Malay fanciers for a letter to help in swelling this amount.—JOSEPH HINTON, Warminster.

CHICKENS PARALYSED (*A. E. N.*).—They are fed too stimulatingly, and are grown too fast. Indian corn in the morning and barleymeal mash at night would be quite enough as they have a grass run.

YOUNG TURKEY BLIND (*C. L. M.*).—Wash the head daily, or twice daily, with tepid water. Give sulphates of copper, one grain, mixed in oatmeal mashed with ale, and plenty of green food. Separate the bird from all others.

LICE ON PIGEONS (*J. T. P.*).—Dust thoroughly under their feathers and their nests with flowers of sulphur.

RHUBARB WINE (*E. F.*).—Take 5 lbs. of rhubarb cut as for tarts, then add to such quantity one gallon of cold water; place it in a tub or vessel, where it may remain eight or nine days, taking care to stir it well up at least two or three times a day; then strain it off, and to every gallon of liquor add 4 lbs. of loaf sugar, then juice of a lemon, with part of the rind of the same; put it into the cask with a little isinglass dissolved. The cask must not be stopped down for a month, and you may bottle it in ten or twelve months.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.					
	Baromet. at 630 and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at Foot.	Shade Tem- perature.		Radiation Temperature.		Rain.
		Dry.	Wet.			Max.	Min.	In sun.	On grass.	
1877.	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
July.										
We. 25	29.905	64.5	58.5	W.	60.1	69.3	52.3	120.9	46.2	0.984
Th. 26	29.768	62.2	60.9	N.W.	61.2	73.6	55.7	122.1	54.0	—
Fr. 27	30.149	63.2	59.4	S.W.	61.0	72.9	52.1	116.0	45.8	—
Sat. 28	30.170	61.8	58.3	S.S.W.	60.6	70.6	50.6	93.9	49.1	0.010
Sun. 29	30.250	73.9	67.3	W.	61.7	82.2	59.4	132.0	55.8	—
Mo. 30	30.303	63.1	60.5	S.W.	64.0	83.3	56.1	125.5	54.3	—
Tu. 31	30.159	78.5	64.3	W.S.W.	65.7	87.1	57.2	133.9	55.3	—
Means	30.088	66.0	60.3		63.0	77.1	54.8	120.5	51.6	0.394

REMARKS.

25th.—Fine morning and forenoon, dull afternoon and evening, and rain after 9 P.M.

26th.—Raining heavily at 9 A.M., but soon clearing off; the remainder of the day fine, and the night splendidly bright.

27th.—A fine pleasant day throughout.

28th.—Grey morning, and rather so all day; a slight sprinkle of rain about 4 P.M.

29th.—The finest and hottest day we have had for some time, but there was a pleasant breeze to temper the heat.

30th.—Grey morning, but a brilliant and hot summer day, but still a pleasant breeze.

31st.—Morning and forenoon very bright; afternoon and evening rather cloudy, but the heat intense and scarce any movement in the air.

The last three days excessively hot, and this more trying as the temperature previously had been rather low.—G. J. SYMONS.

COVENT GARDEN MARKET.—AUGUST 1.

PRICES remain the same as last week.

FRUIT.									
		s.	d.	s.			s.	d.	s.
Apples.....	½ sieve	0	0	0	Melons.....	each	3	0	0
Apricots.....	dozen	1	6	0	Nectarines.....	dozen	6	0	0
Cherries.....	lb.	0	8	1	Oranges.....	dozen	10	0	0
Chestnuts.....	bushel	0	0	0	Peaches.....	dozen	8	0	0
Currants.....	½ sieve	3	0	4	Pears, Kitchen.....	dozen	0	0	0
Black.....	½ sieve	4	0	5	dessert.....	dozen	0	0	0
Figs.....	dozen	8	0	13	Pine Apples.....	lb.	2	0	5
Filberts.....	lb.	0	0	0	Plums.....	½ sieve	0	0	0
Cobs.....	lb.	0	0	0	Raspberries.....	lb.	0	6	1
Gooseberries.....	bushel	3	6	4	Strawberries.....	lb.	0	6	1
Grapes, house.....	lb.	2	0	8	Walnuts.....	bushel	5	0	0
Lemons.....	½ 100	6	0	10	ditto.....	½ 100	0	0	0

WEEKLY CALENDAR.

Day of Month	Day of Week	AUGUST 9-15, 1877.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
9	Th		74.9	49.6	62.2	4 38	7 32	4 36	7 47	0	5 14	221
10	F	Royal Botanic Society (Anniversary) at 1 P.M.	75.1	51.9	63.5	4 39	7 31	6 11	8 2	1	5 5	222
11	S		75.8	50.7	63.2	4 41	7 29	7 42	8 16	2	4 56	223
12	SUN	11 SUNDAY AFTER TRINITY.	75.1	50.5	62.8	4 43	7 27	9 10	8 29	3	4 46	224
13	M		74.5	50.0	62.3	4 44	7 25	10 37	8 43	4	4 38	225
14	Tu	Clay Cross (Chesterfield) Show.	72.9	50.8	61.8	4 46	7 23	0 a 2	9 0	5	4 25	226
15	W	Dover and Shrewsbury Shows.	73.1	50.0	61.6	4 47	7 21	1 27	9 22	6	4 14	227

From observations taken near London during forty-three years, the average day temperature of the week is 75.0°; and its night temperature 50.0°.

CLOSE PLANTING VINES—ALTERNATE CROPPING.



OCASIONALLY Vines are planted at half the usual distances apart with a view to a fuller and earlier supply of Grapes, and the plan was at one time advocated as not only calculated to secure greater first results, but by alternate cropping of the Vines it was thought to possess permanent advantages.

"J. W.," some time ago, requested information upon this subject; but I did not think it desirable to respond until fortified with at least an apprenticeship of experience.

In the spring of 1870 I took charge of two vineries with the Vines planted 27 to 30 inches distance apart. They had been pruned to the bottom of the trellis, and all eyes removed but the three uppermost. The object was to have fruit quickly—a means wide of the mark for securing it, inasmuch as had every other Vine been a fruiting one and fruited in the pot placed on the border, or, better, the hot-water pipes, and well fed, a dozen bunches might have been had from each Vine the first season; but under the circumstances no more could be anticipated than proving of the kinds, to which wrong labels had been attached to several.

In 1870 the Vines reached the top of the house, and laterals being rather freely encouraged they had in autumn strong well-ripened canes. These were cut back to one-third their ultimate extent, the object being to have them in full bearing as speedily as possible—in full crop in three years after the first. The rods were depressed early in 1871, and as bleeding took place the ends of the canes were dried with a red-hot iron and then smeared with the patent knotting used by painters. The break was good; every shoot showed fruit, some two and three bunches. The shoots were disbudded, reserving shoots 18 inches apart on each side, or as near as they could be had at that distance, and a bunch of fruit was allowed on each. Ample laterals were allowed from the leaders, and the finish was satisfactory.

1872. The Vines fruited two-thirds the extent they were to occupy, and were quite equal in finish to the preceding crop. In 1873 the Vines were in full bearing, allowing each Vine a full crop, twice the quantity of fruit to what would have been the case with half the number of Vines; but the finish was not so good as in the two first years of fruiting, it being clear that the foliage was already becoming too crowded.

1874. Smaller bunches, smaller uneven berries, and indifferent finish marked the produce of this season; plenty of fruit, but unsatisfactory. If failure was to be avoided prompt steps must at once be taken. Half the produce of the Vines would have made a serious void in the supply, otherwise out at once would have come every other Vine; and I have no question as to the effect upon the remaining Vines, for with more space the foliage would not only be larger but be more able to perform its important functions. Things must remain as they were for at least another year.

In 1875 I took a shoot from the base of every other Vine and trained it along the rod to the top of the house, stopping the laterals to one leaf. These Vines, notwithstanding the increased foliage of the cane—greater crowding of the foliage—finished their crops better than the other Vines. When the fruit was cut the old rods were cut away and the young canes took their places. A strong well-ripened cane with roots that had supported it and a rod with spur shoots carrying twenty bunches of Grapes in 1875 ought to produce the like quantity of fruit in 1876. I had previous experience upon the matter, and resolved not to try it again, inasmuch as though a cane would afford twenty bunches of fruit, it became so exhausted in the performance as to be of no further use—at least not without resuscitation of its energies by a period of rest: therefore I left the cane one-third its length, and had a good show of fruit, but considerable divergence in character upon the kinds grown, which as it appeared to me interesting I may note. Black Hamburgh, Mill Hill Hamburgh, and Buckland Sweetwater were very loose in the bunches, indifferently furnished with berries for their size, and had a large per-centage of small seedless berries. Muscat Hamburgh (Black Muscat) though the bunches were large contained many stoneless berries, not many of which were full sized. Lady Downe's were in a similar state, yet having larger bunches than from spurs. Mrs. Pince, Gros Guillaume, and Trebbiano afforded good bunches, but were stamped with a looseness of bunch and seedless berries, yet not to an extent that a good thinning did not rectify. The finish of the cane fruit was not so good as that of the spurred rods, which showed a decided improvement in 1876 over the crop of 1875, the greatest advance being in Muscat of Alexandria, Gros Guillaume, and Lady Downe's; those with Mrs. Pince and Trebbiano requiring more space for their foliage than Hamburgs, and Hamburgs demand more foliage space than the Frontignan, Sweetwater, and Muscadine Grapes. I may mention White Frontignan as not showing any improvement from having increased space; but as the crop was good and had been equally so from the first no complaint can be lodged against it, indeed I find it one of the best kinds for early forcing. This season the rod Vines have so improved that the cut-down Vines between them will, so soon as the crop from them is cut, be cleared out.

It has been asked if there is any fear of the roots of Vines left in the soil engendering fungus to the injury of the roots of the remaining Vines? I have no dread of such an occurrence—in fact I have taken often away much older Vines, and found no evil results attend the leaving of some roots in the border. They will decay no doubt, the decay causing a nidus for some fungus to vegetate in, hastening the work of decomposition, that itself being of a kind as likely to benefit the Vines as to prove injurious, at least I have not experienced any injury to Vine roots by fungus generated or fostered by decaying roots. I have therefore not had cause to fear any evil from fungus in a Vine border.

Nothing is gained by the close planting of Vines, unless

the object be to obtain the greatest result in the briefest period, rooting out the Vines afterwards; nor is anything good had by crowding the foliage, every leaf requiring full exposure to light and air for the due performance of its functions—the perfection of the present crop, and the no less important condition of perfecting growth for producing future crops. A great Vine is not necessary: of more consequence is the exposure of the foliage fully to light and air, and when this is provided, with the other elements of culture, a Vine in a ground vinery or an amateur's small greenhouse will afford Grapes of equal quality with the giant of Cumberland Lodge or the mammoth at Hampton Court.

I may inform those who differed with me as to Gros Guillaume being a shy bearer, that it still maintains the free-bearing property attributed to it some time back. It bears freely, one critic said, whilst the spurs were young; another gave instances of its shyness of bearing. I do not know what may be called an old spur. I have seen spurs 2 feet and more long; but not being an advocate for more old useless wood than is absolutely necessary to act as conduits of the sap to the bearing parts, my spurs are short, though not so short as I could wish, or they would emanate from the main rod annually; yet I have spurs upon Gros Guillaume of seven years' growth producing in each year a bunch of fruit, the show of fruit being as good upon the shoot from the first spur at the base of the Vine as at the top. This year the largest bunch is at the base of the Vine, the bunch measuring 18 inches in length and 16 inches across the shoulders; those at the top are not more than 16 to 17 inches in length and 13 to 14 inches across the shoulders, the Vine itself not having a rod much over a dozen feet in length, yet it carries eight such bunches, and ten equal to them were cut away when thinning. All it requires is to have the foliage ample, and the shoots thin, so that the wood becomes perfectly ripened, and it then fruits freely.—G. ABBEY.

VARIORUM NOTES ON ROSES.

GOING about as I do all over the country exhibiting and judging, I have many opportunities of taking notes of persons and things, and the longer I live the more I learn about Roses, their requirements, their strength, and their weakness. It occurred to me that perhaps at this dull time of the year a few notes might be acceptable to the Rose Journal on the subject of Roses viewed in an exhibition light.

It may be remembered by some of your readers that in one of my former letters, before the exhibition season commenced, I expressed my anxiety as to the result of this season's exhibition to myself, inasmuch as I had made rather a bold experiment. I determined for once to grow my Roses without dressing them with farm or other manure in the autumn or spring. I was led to adopt this plan—first, from a visit paid to me by Mr. Walters of Exeter, who expressed his opinion that my soil had been so manured of late years that it could not hold any more; secondly, from the difficulty and expense of procuring manure; and thirdly, from the untidy appearance that the beds assume when the manure is left on the surface. I therefore relied entirely on guano in the spring, surface-moving, and any amount of liquid manure. Concerning guano I know there is a great difference of opinion. Many people hold that it is of no use at all for Roses, others say that it is beneficial, but must be employed with the greatest caution. I hold that guano is one of the finest manures for Roses we have, and my experience this year (to my mind at least) proves it.

I pruned very late in order to suit the National fixture, and I am confident that here I made a great mistake. When I say late, I mean late for this neighbourhood, for it was the middle of March before I pruned a Rose. Anyone who remembers the late season will, I think, agree with me in saying that we had a mild if not a very mild winter. February was so mild (for the season) that the Rose trees grew wonderfully, and when I came to cut them they were almost in full leaf, at least the leaves were all formed. I then cut tremendously hard, almost down to the ground. The check here must have been very great, but after the pruning was finished a season of unexampled severity set in which checked all growth, and so naturally my plants refused to grow. The very maid servants here shook their heads as they saw such hard pruning to plants in full growth, and I am convinced that, be the shows when they may, it does not do to defer pruning to suit them. In the first week of June I looked round my roseries and saw no growth, no buds, and no signs of being in form. Then in desperation I called Peru to my aid, and put on the guano very carefully

and in small quantities, and though my plants did not grow at all as they ought to have done I had fair blooms. Every rainy day (we had only three all June and till the 15th of July), I put on guano again. Now as to results. I think anyone who has read my accounts of shows will absolve me from any wish to speak of my own success, and believe me that I only mention what I have done to "point the moral and adorn the tale."

I showed at the Crystal Palace in one class, at Exeter in two classes, at Torquay in four classes, at the Alexandra Palace in two classes, at St. James's Hall in four classes, and at Bristol in five classes—eighteen classes in all at the great shows; and I won three first prizes, eight seconds, two thirds, and three fourth prizes, or sixteen prizes with eighteen exhibits. This, of course, is not in any way a grand result, but just a decent success; but it has been achieved without the employment of a single load of stable manure, and I only mention it to show that, where it is almost impossible to procure this, something may still be done with artificial aids like guano.

I must also mention in self-defence for not doing better, that owing to our having no late trains on the South-Western Railway, I am compelled to cut either fifteen hours before my great rivals do, or else to cut and stage in the hot sun. And this leads me to the discussion of a point of much interest and importance to men who, like myself, are obliged to cut a long time before our rivals. Is it better to cut at 3 A.M. with the dew on the blooms, or to wait till 2 or 3 P.M. and cut in the hot sun? What say the authorities?

Mr. Keynes says, or did say some seven years ago when asked by myself, "Undoubtedly it is better to cut in the early morning, even twenty-four hours before the show, than to cut in the sun however near you can do it to the time of judging." Mr. Keynes' foreman said last week when I told him that my Alexandra trebles were cut in the sun, "Well, sir, and if you have the stuff in your Roses it is best to do so." Mr. Curtis, I am told, positively recommends it; Mr. George Paul condemns the practice; and Mr. Robert Baker, the champion, says that under no circumstances would he cut in the morning. He always is able to cut at night; but if he were not, he would cut in the sun rather than at three or four in the morning. "There is one thing," he added, "one advantage you have in cutting in the sun—you need never put in a bad bloom," and when cutting in the early morning young blooms to last for thirty hours, you often do; in fact, you cannot fail to put in some poor blooms. However, the idea of cutting in the sun is quite new. It is like Wagner's music, violates all established rules, sets custom at defiance; but whether it, like his music, will prove to be the "rage of the future," or whether it will even be scoffed at then as it is now by the great majority of rosarians, remains to be proved. My own idea at present, and one which I shall follow out with extensive practice next season, is to cut very young and cut in the sun, unless the South-Western Railway mend their ways and carry the mails instead of being content to see them carted thirty miles as now away from their system. Any advice that your correspondents will kindly give on this momentous question through the winter will be of great service, and be most highly appreciated by a Wyld Savage. The great charm, or at least one of the great charms of the National Rose Show at St. James's Hall, was the great freshness of the blooms. Mr. George Paul cut as late as he could see the night before the Show, and travelled up slowly, and quietly, and coolly during the soft night air. Mr. Turner cut all his blooms the morning of the Show; and Mr. Cant not only cut very late on the eve of the Show, but also left his foreman to run over his plants and bring-up fresh blooms on the following morning. Here, then, were three of the great nurserymen showing blooms many of which had only been cut five instead of the usual twenty-eight hours.

And now let me give one or two instances of the great energy shown by the leading amateurs so that their blooms might be as fresh as possible at the great tournament of the year. Mr. Jowitt loaded his Roses on his own trap at Hereford, had the trap placed on a carriage truck at the station, and did not unload it till he carried his boxes into his own private dressing-room at St. James's Hall. His great rival "Hercules," who ran him so close at the National for the cup and beat him on his own ground at Hereford, positively iced all the water with which his tubes were filled, and he took a spare bloom for every Rose he staged. He showed in thirteen classes and took £32 in prizes. Was ever such a wonderful success known? Next year Mr. Cranston's cup at Hereford and also at St. James's Hall will be keenly competed by these

two giants, and the contest even at this distance of time is talked about, and is the cause of much interest and excitement. Looking back over the exhibitions and comparing notes I am struck with one thing which is of rare event, and that is the number of excellent new Roses which have been exhibited this year. By new Roses I do not mean plants sent out this year, but those of the two last years. Both from France and England good novelties have been put in commerce, and we cannot be too thankful that this is the case when we remember what a lot of rubbish is usually sent.

Abel Carrière is a great acquisition to the Pierre Notting class of flower, while Avocat Duvivier is equally good. Mr. George Paul's seedlings are all great gains to this class of colour, particularly Duke of Connaught and Sultan of Zanzibar. Madame Prosper Langier and Madame Emilie Verdier are most important additions to our rose and carmine shades, while Marguerite Brassac is a worthy partner of Charles Lefebvre. Monsieur E. Y. Teas is all that can be wished in a Rose, and too well known to require description. Mr. Turner's Royal Standard and Mrs. Baker are gems of the first water, and these with Duchesse de Vallombrosa and Souvenir de Arthur Sansal make a quartet of light beauties quite worthy of the company of Monsieur Noman, Marguerite de St. Amand, and Mdle. Marie Cointet. Mr. Cant has given the Rose world a priceless jewel in Prince Arthur, and many other French Roses will prove, if I mistake not, worthy of a place in the best stands.

Among new Teas Marie Guillot, concerning which a correspondent inquires, is in my opinion—and one which is founded on much experience—positively worthless out of doors. It is a splendid grower, and perhaps indoors would do well, but in the "open" she will not open. It may be punning to say so, but it is strictly the truth. I have given the Rose the best and fairest trial I can. I have grown her under a south wall in the sunniest and most sheltered spot in my garden, and I have a splendid lot of standards with an eastern aspect, and also another lot with a south aspect, and wherever they are they disgrace the rosery. They grow, they form huge intensely double buds, but when these try to open they cannot perform the operation; it is too much for them, and so they become first dirty and then die. Shading I do not think would do any good, but perhaps a magnifying, or what schoolboys use and call a "burning" glass might. I have as yet seen no good new Teas shown. I was not at the Alexandra, but was at all the other shows except Hereford, and no nurserymen staged any new Teas. So as far as I can judge there are none worth growing. This, if so, is a great loss, as we are very much in want of a few new good Tea Roses. For the last eight years at least no English nurseryman has produced a new Tea, always excepting Mr. George Paul's Hybrid Tea Cheshunt Hybrid, and I cannot understand how it is when he and Mr. Charles Turner have produced so many good Hybrid Perpetuals they cannot send out a new Tea. Is it that the seed will not ripen? or are the Teas barren in England? or what is the reason? Depend upon it the English nurseryman who does produce a Tea Rose which will rank with Catherine Mermet or Marie Van Houtte will have earned undying fame, and be the greatest benefactor that the Rose world has ever known. Devoniansis was an English-raised Rose, and came from fair Devon. Why, then, cannot we have more of the same sort? Perhaps some learned gentleman will answer to illuminate the ignorance of a—WYLD SAVAGE.

POTATOES.

I AM growing upwards of thirty sorts this year; some of them are quite new, and some are to my certain knowledge fifty-eight years old. These are London Don, Blue Don, Glasgow Buff, and Perth Red. Those sorts up to 1845 and 1846 were in general use, and they were very fine, but they are apt to be badly diseased in wet seasons. They are now very little grown. I think if they were grafted on some free-growing sort, such as Champion, that in a few years they might be restored to their pristine vigour, and it is worth trying.

Some of the new sorts I am trying. Alpha seems to be a useful early sort, and not a robust grower. The foliage is not the least curly, it is 18 inches high. Schoolmaster is growing very freely, and is about 2 feet high, but it does not look to be so early as Alpha. Covent Garden Perfection grows freely, and is 14 inches in height. Yorkshire Hero is growing well and full of promise, and is about 2 feet high. It appears to be like the Lapstone Kidney, which is a very fine sort. Porter's

Excelsior was recommended to me by a nobleman's gardener of high standing, and I bought a stone of it, but it seems a puny-growing sort, and is not above 7 inches high. There are a few amongst them, one out of twenty, that grows more freely and is 14 inches high, and though they are growing beside those named, and have the same treatment, they look like Pharaoh's lean kine among the strong roots. Climax is not very new, but it is new to me, and is much grown by the market gardeners for the Edinburgh market. It is 2 feet high, has fine full foliage, and is very promising. Extra Early Vermont, a sort very like the American Rose, is equally promising, but I have grown it for the third time. I sold some this season for seed at 24s. per cwt. They left me a good profit. When I lift the crop I will give you an account of them.

I saw a patch of blight this week on the Early Vermont; the haulm was much decayed, and some of the roots were rotting. The position was rather damp, and sheltered by Currant bushes. The weather is now dry and rather cool, and I hope there will be no more of the disease.—J. ADDISON, Ormiston, Edinburgh.

A GARDEN LUXURY.

THE Ashantee hammock of Messrs. Seydel & Co., which has found favour in tropical countries by travellers and others, is adapted for use on the shady lawns of English gardens.

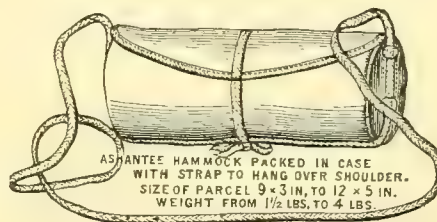


Fig. 24.

Especially, perhaps, by invalids it will be cherished for the comfort it is capable of affording to them; and if those who are unfortunately more or less afflicted can enjoy it, it can be



Fig. 25.—Ashantee Hammock Suspended.

enjoyed the more by those who are hale and hearty. It has been awarded a gold medal at the recent Oporto Exhibition. As a garden requisite it is alluded to, and the accompanying figures show its nature and appropriateness as a garden appliance during the summer months.

STRAWBERRIES FOR LIGHT SOIL.

A FEW years ago there was a Strawberry election in the Journal, and several interesting and instructive letters were published from correspondents on Strawberries and their cultivation in vol. ii., 1872. I was induced to try three or four fresh sorts, and have now given them a fair trial, and propose to say a few words about them; but in the first place will refer to Keens' Seedling. This sort I have had a long time, and it is undoubtedly the best early Strawberry. I have a bed 8 yards long and 7 wide which has produced about seventy quarts of Strawberries this year, and nearly the same last year. This bed has been down about eight years, and the plants look likely enough to go on for another eight. There is nothing particular in the management. They are 2 feet apart, and annually manured with well-decayed hotbed manure. They are trimmed up in autumn, and all the leaves cut off but about five or six at the top. The manure being thoroughly decayed, there is never any necessity to rake it off. The fork, as a rule, is never used, but there was an exception this spring. The soil was rather caked over on the top of the bed of which I now write, and it was dug over with the point of a small

border fork with advantage. The fork went into the ground deeper in the centre of the alleys and very shallow close to the plants. Even this small disturbance would be injurious to one-year-old plants.

The newer sorts I have tried are Early Prolific, Sir J. Paxton, President, La Constante, Eleanor, and Wonderful.

Early Prolific is a fine good-flavoured Strawberry, but is not robust enough in growth to please me, and rather uncertain; but it is about a week earlier than Keens' Seedling, so that either the Prolific or Black Prince must be grown. A very good plan is to plant them side by side and see which will answer the purpose best.

Sir J. Paxton and President have done exceedingly well this year. The former is a noble Strawberry and worthy of all the praise given it at the election. President is also a good Strawberry, rather later than the other, but not equal to it in my estimation. La Constante is a fine-flavoured fruit of dwarf habit, very useful for a shady part of a garden. Wonderful, *alias* Myatt's Prolific, I have seen well spoken of by some people and very much found fault with by others. I have given it a fair trial, and planted out a long single line running east and west. The plants were manured in the autumn, and the fruit branches supported with little forked sticks and kept apart from each other, and some wire pea guards put over all to keep the birds off, which by the way are excellent for the purpose. There certainly was a wonderful quantity of fruit showing at one time, but the performance was not equal to the promise. There was a fair crop of fair-flavoured fruit without any green tip. It is only a second-rate Strawberry, and I should not care to grow it as long as better kinds succeed well; but it is quite possible it may be useful in gardens where manure is not available.

Of the late kinds I need not say much, but I wish we had some later still. The Elton Pine I have had a long time and it does very well; it is the best late Strawberry here. Frogmore Pine and Eleanor have been recommended; the former is a very good-flavoured fruit, but it is not late enough, or I have the wrong sort. Eleanor I do not very much like at present, but must give it a further trial. It may turn out rather later than the Elton; if so, it will be an acquisition.

I gathered the first dish of Strawberries on the 30th of June, Early Prolific and Keens' Seedling nearly together this year, and the last on the 3rd of August, principally President. There will be a few more stragglers.

Since writing the above I have seen the remarks of "W. S. P." I regard the annual renewal of beds as only a last resource, and is certainly not desirable except in a few places. I do not think with any amount of care I could obtain half the crop I can from established plants. Two feet apart I think a very good width, but when there is a very large crop, like there was this year, you cannot gather the fruit very well, and have to pick the fruit all round you and clear a space with your hand before you can set a foot anywhere. I think it would be better to leave a foot of extra space between each third row to enable you to gather on each side. Keep the plants at all times free from weeds, but on a light soil beware of letting in the rays of the sun too much. In a very dry season I do not cut off the runners in early summer, or trim up the beds in autumn unless the soil is sufficiently moist, but wait for rain.—*AMATEUR, Cirencester.*

THE ROSE YEAR.

AMONGST the Rose lore of the Journal I am gratified by finding that Roses for garden decoration as well as Roses for exhibition are still cherished by many. Yet, we have a rosarian—a modern orthodox advanced rosarian—who grows hundreds, perhaps thousands of Rose trees—no, "plants," and who on the 23rd of July writes a valedictory account of "the year that is just over"—the Rose year of 1877. Without applying a stronger term, I will say that the admission of "WILD SAVAGE" is a libel on the Rose. He has told us that he was not "in" at the Crystal Palace Show (June 23rd), and "out" a month after that date. Thus he has had about three weeks of Roses for forty-nine weeks of preparation. Fancy the drawing-room of a rosarian being destitute of Roses for forty-nine weeks out of the fifty-two! If Mrs. Savage can endure that without a murmur she must be possessed of anything but a savage disposition—must, indeed, be angelic. Why, few prisons—I mean the governor's quarters—can, I think, be so destitute, and I trust no hospitals are roseless for such an unreasonable time. Have I placed the matter too

strongly? Let me quote "WILD SAVAGE'S" own words. On page 47 he has stated, "For fifty weeks in the year the whole of my front has looked hideous," and at the time of writing that gloomy sentence he gives dismal emphasis to the circumstance by saying that he had then "nothing in the shape of a flower," nothing for poor Mrs. Savage's drawing-room except (it is only right to mention this) the lovely Teas.

Let me ask that some spare corner, some place unfavourable by site or soil for exhibition Roses, be vouchsafed for garden Roses—drawing-room Roses, and so make the garden less "hideous" and the room more cheerful. I can enjoy a perfect bloom and an exhibition of Roses, and am willing to admit that few sights are more beautiful, more imposing, but I cannot admit that Rose shows should be the be-all and end-all of Rose cultivation.

I earnestly hope that there are hundreds besides myself who do not regard the Rose year as being over, but hope to enjoy in gardens and rooms hundreds of Roses for months to come. I am happy to say that if there were no Teas the drawing-room that I have catered for during several years would never have been without Roses from the beginning of May, when a few are produced in the greenhouse, until Christmas. Surely if "WILD SAVAGE" can grow hundreds of "plants" for producing exhibition blooms, he can afford space for a few trees and bushes for yielding drawing-room flowers, and so remove what I think is the reproach that now rests on his garden.—*A PARSON'S GARDENER.*

IN THE NORTH.—No. 1.

HOWICK HOUSE, PRESTON, LANCASHIRE,

THE SEAT OF T. M. SHUTTLEWORTH, ESQ.

It will have been seen that my steps have again been northwards, and although Preston was taken in my homeward journey, yet there are reasons why I should give my notes of it first. It is well known that the provincial meeting of the Royal Horticultural Society is to be held there next year, and that Mr. Shuttleworth is to be the local Secretary; but it is not equally well known that a Company of which he is Chairman has guaranteed the sum required by the Society's arrangements, and that thus one material difficulty has been got rid of; and anyone who knows the indomitable energy and pluck which characterise him is thoroughly persuaded that there will be no *fiascos* as at Bath, and that the comfort and convenience of all concerned will be considered. Beyond this step and the securing of a place for the Show, which will be held in a field of twenty-two acres about two miles from the town, but little has been done; in a short time, however, we may expect to see the usual announcements and a liberal prize schedule issued. Preston, like most of these northern towns, is not an inviting place, and I can hardly imagine anyone choosing the town itself as a place of residence, but it affords many facilities for an exhibition. It is central, in the midst of a dense population who are given much to holiday-taking; and there is no doubt if the one element on which everything of the kind depends—if weather be favourable, that the meeting will be a very successful one.

Howick House has only been in the possession of Mr. Shuttleworth for about four years, and during that time has been metamorphosed, although the alterations are not yet completed. The house is an old-fashioned roomy residence with no great pretensions to beauty, but pleasantly situated, and has within it the elements of being, what I have no doubt it will be by-and-by, a perfect place. The soil is a rich deep loam, in which Roses and Strawberries grow to perfection. Two large beds of dwarf Roses were wonderful for their vigour, and I should not be at all surprised by-and-by to find the Roses from Howick occupying a distinguished place. Of this I am sure, if once the idea seizes my good friend he will not rest until he is at the top of the tree, and no Hercules or Agamemnon or any other hero will deter him; and I say this from what he has already done. In the course of a few years he has become one of our leading exhibitors of plants, has carried off a number of Mr. Bull's cups, has won the ladies' gold medal at Preston, and the gold medal at the International at Dundee, and the gold medal at the last great summer show of the Royal Horticultural Society; and no one who saw the splendid examples of foliage plants then exhibited could doubt that the position attained by Mr. Shuttleworth was rightly his due. Like many another exhibitor he has worked his way up. He is fond of telling his own story, how some years ago when he was a greenhorn he had sent some twenty entries to a provincial show, and feeling that

as he had a good deal of the toil he ought to have some of the reward, he wrote to the secretary to say that it would be better to forward him a cheque for the amount of his prize money. This was quite impossible, not from its large amount but the reverse, as it amounted to 9*d.*—somewhat different to his last Manchester winnings, which amounted to £70. Still, perhaps that "miserable nineness" was the spur to urge him on.

During the four years the present range of houses has been erected and further alterations are in progress. These houses are filled with plants, every one of which is a specimen in itself, and they are interesting to those who know the excellence of culture which is required to bring plants to this perfection; and here are to be seen those giants by which his renown as an exhibitor has been obtained.

Amongst the plants for which Howick House is famous the *Gleichenias* hold a foremost place, and I am not quite sure but that they are the favourite plants of the owner; nor will it be too much to say that such a collection is nowhere to be seen. The grand masses of *G. semivestita*, *flabellata*, *speluncæ*, *pectinata*, *rupestris*, *circinalis*, &c., were in vigorous health, most of them 7 and 8 feet in diameter, and not the least surprising fact is the short time in which these grand masses are developed. When in two or three years plants fit for exhibition can be obtained it must be clear that their culture is well understood. The plants were also perfectly clean, no appearance of thrips or any of the ills to which plants are subject, and not a little of this is to be attributed to the fact that they are grown in a much lower temperature than is usual. Because they come mostly from the southern hemisphere they are treated often as if they were tropical plants; but Australia, New Zealand, and Tasmania are not tropical countries, and if plants indigenous to those countries can be kept in a lower temperature free from frost they will do well. The climate of the Genoese Riviera, as Dr. Bennet tells us, is favourable for all Australian plants, and so Mr. Shuttleworth is but following nature when he refuses to treat the greater portion of them as stove plants. *Cyathea dealbata* with its silvery fronds is very fine, and so is *Cibotium princeps*, one of the grandest of Ferns. Then *Todea superba* is in such condition as it is rarely seen in—magnificent fronds of the liveliest and brightest green. But Mr. Shuttleworth's love for Ferns is not confined to exotics; he has a choice collection of British Ferns, many of them of large size, which have already gained exhibition honours, and doubtless are destined to do so again. In the same house are two grand specimens of *Cordylina*, one of which is I suppose unequalled.

And what magnificent stove and greenhouse plants are to be found in all directions! Here is a plant of *Phormium tenax variegatum* so large that it has to be kept tied in. Then the *Staticeæ* with their masses of lavender-coloured flowers were especially gay, preparing, too, for contest in another field. Then there are plants of *Croton* marvels of beauty, amongst them a fine plant of *Disraeli* with leaves nearly 2 feet long with golden yellow midrib and a few scattered spots of the same colour; *Croton spirale* with its curiously twisted leaves, and many others. Here again are fine plants of *Dipladenia amabilis* with its lovely pink flowers, also of *Dipladenia Brearleyana*, a most floriferous kind, with the flowers of a much deeper crimson than in any other variety, diffusing its delicate perfume through the house. There are also grand plants of *Eucharis amazonica*, and of the, if possible, still more useful *Eucharis candida*—more useful because smaller, and therefore more suitable for bouquets, as I have seen many otherwise very beautiful spoiled by a centre flower of *Eucharis amazonica*. Seldom, too, have I seen a more beautiful specimen of *Maranta Veitchii*. Larger I have seen, but they have too often been ragged and discoloured; this was clean and sound. Heaths, too, which we do not often see now well grown, are here in capital condition. Two lovely plants of *Erica Parmentieri* and *Parmentieri rosea* in full flower make one sigh over those days when they were so generally grown and exhibited in such perfection. One of the finest plants of the lovely *Lapageria alba* that I have seen is here, a plant, I think, only three years old, with six strong suckers from it, and likely soon to be a mass of beauty. Then there are *Zamias*, *Dions*, *Dracenas*, &c., all in first-rate order, and all grown for exhibition. The *Azaleas* are grand in size and in rude health, the masses of *Anthurium Scherzerianum* in magnificent flower; and it was with some interest I saw the place where the seeds of this plant did unquestionably settle the rats—a too valuable cure, I fear, to be used generally, but apparently most effectual. *Camellias* too are in fine order, and in fact to enumerate the plants would be simply to go

through the lists of those stove and greenhouse plants which we see on all great occasions; and I am convinced that, both at Carlisle and Preston, whoever crosses swords with my good friend will find that they have something to do to beat him, for the cleverest plantsman will find him a foeman worthy of his steel.

The zonal *Pelargoniums* grown for exhibition are grown in a low span-roofed structure, the sides as well as the roof being of glass, the plants raised up close to the top so as to give them abundance of light and air. This had resulted in the production of plants of large size, great freshness of foliage, and abundant promise of bloom, and in them, as everywhere in this plant, excellence of culture is the rule. Of course it is not everybody who has the inclination, and I may add the means, to enter so largely into the growth of exhibition plants; and I could not help thinking as I walked through the houses and surveyed these plants, how much do the promoters of flower shows owe to such enterprising growers. It is commonly thought that the balance is on the other side, but I am convinced this is incorrect. A gentleman of Mr. Shuttleworth's tastes might very well do without flower shows, but flower shows cannot do without him; and if committees were to consider these things a little more they would perhaps endeavour to make themselves more agreeable to exhibitors instead of imagining that the exhibitors ought to be vastly obliged to them.

I have endeavoured to give some little idea of the character of this place, but, as I have said, it is in transition; and if any of the visitors to the Preston Show next year find their way to it, as I have no doubt many will, they will find it much altered. Mr. Shuttleworth has a thorough knowledge of plants himself and is a really practical gardener; but it would be unfair not to bear witness to the intelligence and zeal displayed by his head gardener Mr. Thornber, for to him must be attributed in good measure the excellence of the collection. Master and man work well together, and success is the result; and I may, without injury to others, wish more of that success to the hearty, genial, and hospitable master of Howick.—D., Deal.

ROSES IN SCOTLAND.

"A Rose bud by my early walk
Adown a corn-enclosed bawk,
Saw gently bent its thorny stalk
All on a dewy morning."

"It's a far cry to Loch Awe," and so it is from Galloway to Fleet Street, but as you have had news of Welsh Roses perhaps you can find room for a few notes from Scotland. Year by year the culture of the Rose is extending rapidly in this country, and nowhere perhaps more rapidly than in this south-west corner of the "land of brown heath and shaggy wood." I live (is it not written in the book of "D., Deal?") in the very windiest spot in Britain, and I try to grow Roses, and my friends and the local prize lists say I succeed. If, then, it be of any interest to your readers here is a list of Roses which are "certainties," even in such a trying place for rude Boreas and his kindred crew as this wee garden of mine:—*La France*, *Marquise de Castellane*, *Cheshunt Hybrid*, *Alfred Colomb*, *Jules Margottin*, *Baronne de Maynard*, *Marguerite de St. Amand*, *Baroness Rothschild*, *Bessie Johnson*, *John Hopper*, *Duke of Edinburgh*, *Maurice Bernardin* and his *confrères* *François Michelin*, *Mdlle. Eugénie Verdier*, *Marie Finger* (these two are here certainly distinct in colour, and the latter superior to the former), *Centifolia Rosea*, *Anna Alexieff*, *Madame Lacharme*, *Madame Knorr*, *Homère*, *Souvenir de la Malmaison*, *Marie Baumann*, *Princess Mary of Cambridge*, *Madame Berard*, *Senateur Vaisse*, *Thorin*, *Vicomte Vigier*, *Comtesse d'Oxford*, and *Thomas Mills*. On a wall I find *Belle Lyonnaise facile princeps*, then *Devoniensis* (both kinds), *Rubens*, *Bougère*, *Goubault*, *Duchess of Edinburgh*, *Madame Willermoz*, *Safrano*, *Catherine Mermet*, and *Triomphe de Rennes* do best, though I find the blooms on the last-mentioned Rose very small this year. The *Maréchal* after a three-years trial I give up. I admit he is a glorious Rose, but the swirl round the corners of my domicile is too much for him. "D., Deal," says, *Grow Rêve d'Or*, and so I will. I grow many other kinds, but the names given are those which do best here, and doing well here they will do anywhere in Britain.

Of new Roses I find the following do admirably here:—*Madame Ferdinand Jamin*, *Miss Hassard*, *Mdlle. Marie Cointet*, *Monsieur E. Y. Teas*, *The Shah*, *John Stuart Mill*, *Villaret de*

Joyeuse, Hippolyte Jamin, and Bernard Verlot. I will give other new sorts a further trial, but so far they are a snare and delusion.

In a blacksmith's garden close by me there is the most glorious bush of *Souvenir de la Malmaison* I ever saw. It really is a bush, about 3 feet high and 4 feet through, and is at this moment a mass of magnificent blooms. It is never pruned, only the dead wood cut out. If Mr. Abbey had seen some blooms of pegged-down Cheshunt Hybrid here I think he would have altered his opinion about the size of blooms on pegged-down Roses, and they were not disbudded.

The Galloway Rose Show has given a decided impetus to Rose-growing in this district, and we are greatly indebted to Messrs. Cant, G. Paul & Son, Dickson & Sons, and Robertson and Galloway for the support they have given, and I sincerely trust will continue to give, to the local efforts in honour of the queen of flowers. Mr. Cant, in his genial speech at the Rose Show dinner, told the Galloway amateurs that they were ahead of the rest of Scotland, and truly "approbation from Sir Hubert Stanley is praise indeed." So, fired with enthusiasm by the backing of such a champion in the Rose lists, I venture to hope that some day in the coming Julys we may be able to break a lance with the Sassenach, though Heaven forbid he comes in the armour of a Baker, a Jowitt, a Pochin, or the war paint of the "WYLD SAVAGE," for if he does I fear me much the meeting will not result as did an encounter between Robert the Bruce and Sir Aymer de Valence, Earl of Pembroke, at Glentworth (a lovely spot near here, unknown to the tourist tribe), for this was the end thereof, as the quaint old rhayer hath it—

"And Sir Amery that was wise
Departed in meikle pain,
And went to England home again."

—HOMUNCULUS.

P.S.—I cannot persuade Charles Lefebvre or Madame Victor Verdier to give me the blooms of former days. How is this? I think it would be a great boon in this year's Rose election, if any particular Rose does specially well on a particular stock, this fact were published by adding to the name of the Rose the initial letter of the stock, as M. or S.B., &c. Is this too much to ask from the amateur's benefactor, Mr. Hinton?

WHEN SHALL WE TAKE UP THE POTATO?

THIS is the question that now exercises the minds of all careful cultivators of the noble tuber, and a very important one it is, for success or failure in preserving the crop intact from the ravages of disease very much depends upon what answer our actions shall give to it. Timely lifting saves the crop. It is this important fundamental rule that I have for years been trying to enforce; and now "NORTHERN GARDENER" tells us that it is only to the warm and genial south that my teaching is applicable. I cannot agree with him, and will proceed to show cause why I cannot do so.

Dig up the Potatoes as soon as the tubers stop growing and you will sustain no loss from blight. I have done so most successfully for some years here in the south. Why cannot it be done in the north? Because, says "NORTHERN GARDENER," the tubers swell so late, and there is a lack of convenience for storing them thinly. But if the tubers do swell late that can be no hindrance to lifting them as soon as they cease swelling; and as for the want of store sheds, surely the building of such must be a sound, safe, and wise investment of capital, pointing, as it most certainly does, to an immense saving of wholesome nourishing food. The entire matter is really one of national importance, and it is quite foreign to British energy and enterprise to say that a method of saving an important article of consumption must fail simply for want of convenient storage. How can anyone who is really in earnest suffer such a trifling obstacle as this to stand in his way? I am now in the enjoyment of excellent store sheds. Why? Simply because I showed ample proof for three consecutive years that it must answer to build them let the cost be what it might. When first Potatoes were grown here in quantity there was not a shed or outbuilding of any kind, and yet the entire crop was lifted early and stored thinly. Where? Why, in an old loft over a cow shed about a mile off, which I managed to get hold of while the Potatoes were growing.

Storing appears to be the great difficulty, and yet it is one which I may venture to say could hardly prove insurmountable in a single instance. What after all is required? Darkness to avoid greening, ample space for the tubers to be spread out

thinly, a free circulation of air, immediate protection from rain, combined with subsequent protection from frost, all which are, of course, best obtained in a storehouse replete with shelves, doors, ventilators, and shutters. But failing the storehouse a host of contrivances present themselves. Take for example the case of a grower for the markets, having a field many acres in extent, wishing to lift his crop and store it in the field, sending it thence at various subsequent periods direct to the railway station or markets, and thus avoiding the loss of time and expense which carting at the time of lifting would involve. What can he do? Just this: Make one or a number of beds of earth about 4 feet wide—level, beaten hard with the back of a spade, raised a foot above the surrounding surface, and running the entire length of one side of the field if necessary. Upon these beds the tubers are taken as they are lifted, spread out thinly, and immediately covered with hurdles thatched with straw, and arranged in the form of a continuous ridge, straw being bound over the top of the ridge and up the ends of the hurdles, thus excluding light and rain while allowing a free circulation of air, and affording every facility for the examination and turning of the tubers on fine days. Then when the ripening process is finished they are thrown together in large compact heaps or ridges, a suitable covering of straw or other available litter put on, taking especial care to let it slope at an acute angle so as to throw off rain readily, and the crop is safe.

Let me conclude with a word of warning. When the tubers cease swelling the haulm is invariably green. Let not this prove a hindrance, but lift immediately after you are convinced the tubers have attained to their full size; if you do not and rain sets in, the haulm will put forth lateral or side shoots, the tubers will sprout and produce a crop of other small worthless tubers, thus becoming converted into what are termed seed Potatoes, and losing all excellence of quality, to say nothing of the disease which invariably follows the rain. In a word, the crop will be spoilt, and the time-worn outcry raised once more, How badly the Potatoes are blighted!

Great alarm is being manifested about the Colorado beetle. Well, if it come we must do what we may to get rid of it, but meanwhile let us be up and doing all we can to combat the two certain evils of blight and supertuberation, and I repeat that the best way of doing so is to avoid them altogether by early lifting. Early kinds have been in the store-shed for some time, and the seed placed upon the seed trays; second early kinds, such as Yorkshire Hero, are also lifted, and by the time this is in print I hope to be taking up the Victorias, and so once more preserve early, intermediate, and late kinds safe and sound, untainted by blight, and unspoilt from second growth.—EDWARD LUCKHURST.

HARDY ANNUALS FOR SPRING BEDDING.

No doubt many of your readers find a source of great interest in the articles that appear from time to time on spring flowers, and doubtless there are many, especially among the numerous class of amateurs, who read those articles with deep longing, and imagine that spring bedding is a luxury only to be enjoyed by those who can keep professional gardeners and have unlimited means at their disposal; for how often do we meet with gardens, tastefully and elaborately decorated with the usual summer occupants of the flower garden, which are left bare and unsightly till such time as these can be placed in position?

Very much has been written in commendation of hardy annuals as spring bedders, and for effectiveness, cheapness, and easy management they are unsurpassed for this purpose. Early in last September I commenced the laying-out of a flower garden, and, not caring to have this garden barren till the middle of June, I some time previous began to consider for means of making a spring display. Not being in possession of any of the plants so much used for this purpose, such as *Pansies*, *Aubrietias*, *Daisies*, *Polyanthus*, &c., and not having the means wherewith to obtain large quantities of bulbs, I was compelled to fall back upon annuals, and to trust to them to bring about the effect I was desirous of obtaining. I am happy to say they have not betrayed my trust, but produced as fine and effective a display of colour as one could desire to see.

But what in my estimation renders these plants so recommendable is the small amount of expense and labour or skill required for their production and maintenance. Any piece of ground that may chance to be at liberty about the end of August will be suitable for raising them. My method is to

sow the seeds thinly over a good space, and allow the plants to remain where sown till removed to the flower garden. On the appearance of the seedlings, should they be too thick, thinning is resorted to, allowing the plants sufficient space to develop themselves. By this means thousands of sturdy plants are obtained at a minimum cost of time and labour. The plants are removed to the flower garden at the latter part of October or beginning of November, choosing mild open weather for the operation.

The varieties I find most useful and reliable for spring bedding are *Silene pendula rubra* and *alba*, *S. compacta rubra* and *alba*, *Myosotis dissitiflora*, *M. sylvatica*, *Limnanthes Douglasi*, white and crimson *Candytuft*, *Nemophila insignis*, *Saponaria calabrica* and *alba*, and *Collinsia bicolor*. In addition to the above I secure a few plants of *Pyrethrum aureum*, which should be sown about midsummer in a cool situation. There are many others that are doubtless good, but I have found the above succeed best with me, and quite sufficient for my purpose. The following are some of the most effective arrangements:—

For large beds—1, Centre *Myosotis*, band of *Limnanthes Douglasi*, edge *Silene compacta rubra*. 2, Centre *Silene pendula rubra*, a band of *Nemophila insignis*, edge *Saponaria alba*. 3, Centre *Silene pendula alba*, band of *Saponaria calabrica*, edge *Nemophila insignis*, which will require slightly pegging-down. For smaller beds either of the taller *Silenes* edged with *Nemophila* will make an effective bed, also *Saponaria calabrica* or *Silene compacta* edged with *Pyrethrum* have a good effect. The *Nemophila* will also make a pleasing bed edged with *Pyrethrum* or white *Saponaria*. These annuals also make most effective ribbon borders either for spring or summer, and from their slight cost and easy culture are within the reach of all lovers of a garden.—A. E., *Heanton Satchville*.

ROYAL HORTICULTURAL SOCIETY.

AUGUST 7TH.

FRUIT COMMITTEE.—Rev. M. J. Berkeley in the chair. Mr. J. Ollerhead, The Gardens, Wimbledon House, sent an excellent Queen Pine weighing about 6 lbs., to which a cultural commendation was unanimously awarded. Mr. R. Gilbert, The Gardens, Burghley, Stamford, sent a seedling Melon, the result of a cross between Hero of Bath and Cox's Improved, but it was too far gone. Mr. J. Thomas, The Gardens, Brockham Park, sent a seedling Green-fleshed Melon, but it was not thought worthy of commendation. Messrs. Rivers & Son, Sawbridgeworth, Herts, sent a dish of Hale's Early Peach from a cold house. The fruit were large and of fairly good flavour. It was considered to be the best of the early Peaches, and on this account a first-class award was voted to it. A dish of Pine-Apple Nectarine was sent by the same exhibitor. The fruit was large and flavour first-rate. A cultural commendation was awarded to it. Nectarine Advance, a new variety, was also sent, but the fruit were small and the quality inferior. A collection of Cherries was also sent by Messrs. Rivers. Early Rivers was excellent, of the Black Circassian type; Black Bigarreau was not good; Bigarreau Napoleon, large and of good flavour, an excellent sort; Bigarreau Noir de Schmidt, an excellent Black Cherry; Bedford Prolific, a form of Black Tartarian, but as shown was of poor flavour; Bohemian Black Bigarreau is an excellent variety well worthy of extended culture; Monstrueuse de Mezel, a good Cherry of the Bigarreau type, of the largest size, but the flavour was not first-rate; Bigarreau Gros Cœur is of a similar character and considered worthy of commendation.

The Welbeck Seedling Nectarine was sent by Mr. Tillery of The Gardens, Welbeck; as shown the fruit did not seem to be different from Elruge. An excellent dish of the Grosse Mignonne Peach was also sent. A cultural commendation was awarded to Mr. Tillery. A dish of Peaches and one of Nectarines were sent by Mr. H. Pressley, gardener to G. Jennings, Esq., Nightingale Lane, Clapham Common. A cultural commendation was awarded. Mr. Lane, gardener to Major-General Fytche, Pyrgo Park, Romford, sent a dish of Barrington Peaches, to which a letter of thanks was presented. Mr. J. Douglas, gardener to F. Whitbourn, Esq., Loxford Hall, was awarded a cultural commendation for excellent Strawberries, also Kerry Pippin Apples from the orchard house. The former were very highly coloured. A dish of Chasselas Hâtif de Tonneins White Grape was sent from Chiswick, and was recommended by the Committee as the best out-of-doors Grape. A new Black Currant was sent by Messrs. Carter & Co. of High Holborn. The Committee requested to see it again in September, as it was recommended for its late-hanging properties.

Mr. Thomas Miles, gardener to Lord Carington, Wycombe Abbey Gardens, sent some splendid examples of Tomatoes, a variety named Stamfordian. It was thought to be a good se-

lection of Hathaway's Excelsior. Mr. Hunter, Lambton Castle, sent a dish of a new Fig, but the Committee decided that it was not different from Brunswick, although they did not doubt its being a seedling. H. M. Dunnett, Esq., of Messrs. Carter & Co., sent a brace of Cucumbers, to which a cultural commendation was awarded. Mr. G. Cooling, nurseryman, Bath, sent seedling Potatoes, but the Committee did not comment upon them.

FLORAL COMMITTEE.—W. B. Kellock, Esq., in the chair. Amongst the more prominent of the exhibits on this occasion were two magnificent plants of *Odontoglossum vexillarium* from Sir Trevor Laurence, Bart., Burford Lodge, Dorking. *O. vexillarium* roseum had six spikes and fifty-four richly coloured flowers of great size and substance. The foliage also was in exuberant health, being deep in colour and leathery in texture. *O. vexillarium*, the old form of this fine Orchid, had eight spikes and upwards of seventy flowers; a cultural commendation was awarded, and a medal was also recommended to be given. Sir Trevor Laurence also sent *Epidendrum nemorale* and *Eulophia guineensis*. The *Eulophia* resembles somewhat a large *Calanthe* in growth, with a robust spike 2½ feet high, having about twenty rosy crimson flowers with triangular-shaped lips. A first-class certificate was awarded for this plant. The condition of the plants exhibited by Sir Trevor Laurence reflected much credit on his grower Mr. Spyers.

Messrs. John Laing & Co., Stanstead Park Nursery, exhibited thirty plants of perennial Phloxes in 8-inch pots. The dwarfness, freshness, and vigour of these plants, with their varied colours and delightful perfume, render them valuable for conservatory decoration, and it is a little surprising that Phloxes are not more generally grown for that purpose. The plants exhibited were extremely fine, and a cultural commendation was worthily awarded for them.

Mr. J. Puttick, florist, Acton, exhibited a collection of Balsams. The plants were dwarf, well branched, and in excellent condition, and the flowers were perfectly double and very fine; the colours were scarlet and white, many of the flowers being attractively marbled. A vote of thanks was awarded.

Mr. B. S. Williams, Holloway, sent a small collection of stove plants, to two of which, *Dracena Bausei* and *Dendrobium suavisimum*, first-class certificates were awarded. The *Dendrobe* resembles *D. chrysotoxum* with a dark centre; and the *Dracena* is one of the most richly coloured of any in cultivation, every leaf being broadly margined with crimson.

Mr. Cannell, The Nurseries, Swanley, exhibited *Pelargonium echinatum*, a fine old Cape species, valuable for winter blooming; also *P. echinatum* Spotted Gem, the flowers being purplish rose with dark blotches on the petals, the centre of each petal being white. A first-class certificate was awarded for this chaste gem. Mr. Cannell also exhibited *Antirrhinums* and *Pentstemons*.

Hybrid *Begonia* Defiance, a brilliant-coloured dwarf variety, but deficient in substance, was sent by Mr. Chambers, Westlake Nursery; also a salmon variety named Safrano, also *Streptocarpus Rhexi* and the elegant Fern *Asplenium viviparum*. Messrs. T. Sander & Co., St. Albans, sent a basket of their Tom Thumb *Candytuft*, which is extremely dwarf and floriferous. *Celosia cristata variegata* (Messrs. Vilmorin et Cie., Paris) was exhibited, but is more curious than beautiful; also a collection of Stocks and double *Pelargoniums*. These came from the gardens at Chiswick, as did Major Clarke's beautiful *Begonia* Moonlight, Mr. Laing's fine *Fuchsia* Earl of Beaconsfield, and some *Abutilons*.

Messrs. James Carter & Co. exhibited out blooms of two varieties of *Dianthus* Heddewigii named *Crimson Gem* and *Eastern Queen*. The size, substance, and richness of the flowers were remarkable. These varieties will be valuable for garden decoration, especially as they have been proved after some years of trial to come quite true from seed.

Messrs. G. Paul & Son, The Old Nurseries, Cheshunt, exhibited a very fine and extensive collection of cut Roses, for which a cultural commendation was awarded; also a new Rose, *Marquis of Salisbury*, a very fine Rose, somewhat resembling *Alfred Colomb*, but fuller and finer than that good Rose, which is high praise; it is, however, not quite so bright in colour as *Alfred Colomb*. It received a first-class certificate.

Mr. Parker, Tooting, sent cut sprays of *Asclepias tuberosa*, a hardy North American species with orange flowers, and was awarded a vote of thanks. Messrs. Jackman & Co., Woking, sent dwarf Conifers; Mr. Woodbridge, The Gardens, Syon House, sent flowering sprays of *Tamarix gallica*, a fine seaside plant, and *Ceanothus americanus roseus*; and Mr. Dean very fine African Marigolds.

PARAFFIN OIL AND PLANT VERMIN.

THIS powerful remedy must be used very carefully. I followed the last prescription of one gill of paraffin to three gallons of water, and found that where the Bean plants had accidentally received a double watering the leaves were all killed by it. I have therefore reduced the quantity to a wine-

glass for the same quantity of water, and found that it can then be safely and advantageously used to very many plants for the destruction of vermin of all kinds.—G. O. S.

THE CARNATION AND PICOTEE BLOOM

AT SLOUGH AND CLAPHAM.

At the date of the National Carnation and Picotee Show held at the Royal Aquarium, Westminster, many good flowers were not in bloom, and some that were exhibited required a week longer for the properties of the flowers to be fully developed; I therefore gladly availed myself of an invitation from Mr. Charles Turner of Slough to inspect his collection when at its best, which was a week after the Exhibition. At that time Mr. Turner could have exhibited a very much better lot of blooms than he did at the Show. I had seen the plants about the end of May, and thought they were in better condition than our own at Loxford Hall, and the state of the plants at the time of my visit fully verified the expectations formed at that time that there would be a most magnificent bloom. Besides the largest and most select collection I may safely say in the world of the oldest and most recent named sorts, there are perhaps several hundred pots of unnamed seedlings, and amongst them a few that have been selected for distribution during the ensuing autumn. It is a very difficult matter to select a batch of seedlings in which every flower will be superior to others in the same class which have already been sent out. Indeed, no one who has been accustomed to purchase new flowers expects to find this to be the case. What we have a right to demand is that they are quite distinct from other varieties already in existence, and that they are quite equal to them in those properties recognised amongst florists. I believe a goodly number of the Slough seedlings satisfy these requirements, and some of them are not only distinct but superior to the finest varieties already in existence in the same class.

To do the Carnation and Picotee well the plants must be grown in pots, and the pots should be removed to a glass house where they can be protected from wet, high winds, and bright sunshine. The arrangements at Slough are, as one would expect, perfect in this respect. There are two large houses, one a lean-to against a wall facing south. Running along the front of the house is a platform about 2 feet wide filled with plants, which can be inspected to the best advantage from the path between this platform and the back stage, on which other pots are arranged. This house is well adapted for bringing plants forward for exhibition, but the exhibitor always requires to retard as well as to push flowers on, and for this purpose there is a similar house against the same wall facing north, and at the time of my visit both structures were a perfect blaze of beauty. There were also large numbers of plants in other positions: some out of doors quite unprotected, others were under old frame lights with the air circulating freely underneath night and day. The growers seem to be devoting their energies more to the raising of Picotees than Carnations, which is a misfortune if not a mistake. I noted the following amongst the new flowers—viz.,

Morna (Fellowes).—Heavy red, the white is very pure; flowers large, colour brilliant; there are a few bars on some of the petals.

Horace K. Mayor (Fellowes).—Another heavy red, the colour very brilliant, and white pure. If Mr. Fellowes can raise a flower with an edge like this and without any bar on the white it will be a grand hit.

Rev. J. B. M. Camm (Fellowes), heavy purple, is a large flower with clear white petal edged with broad rich purple.

Isabella (Matthews) is quite a novelty and a very full showy flower, which will be well adapted for the border or home stage, as it is of very free growth; the edges of the petals are bizzarred with maroon and purple.

Estelle (Fellowes).—Light rose edge; the petals are beautifully formed, clear white, with wire edge like Mrs. Allcroft. There is not a spot or bar on the white. The best flower yet raised in this class.

Lady Louisa (Abercrombie).—This is a heavy rose already described, but as seen at Slough it was finer than the blooms exhibited at the Royal Aquarium. Fanciers will recognise the merits of the flower when I say it has a better petal and purer white, with the beautiful distinct rose shade of Niven's Fanny Helen.

All the above are Picotees, and the only Carnation I noted as new and good was a fine crimson bizarre raised at Slough,

named Unexpected. It is a flower of good properties and gained the highest honours in its class at the Royal Aquarium. It is a better flower than Eccentric Jack. I noted many fine older flowers, but it would be waste of space to go into details of them. I will therefore merely give the best in each class for the guidance of those forming collections.

CARNATIONS.—*Scarlet Bizarres*.—Admiral Curzon (Easom), Campanini (Turner), Garibaldi (Heap), Lord Derby (Heap), Lord Lewisham (Bunn), Mars (Hextall), Mercury (Hextall), Sir J. Paxton (Ely), and True Briton (Hepworth). *Crimson Bizarres*.—Albion's Pride (Headly), Eccentric Jack (Wood), Graceless Tom (Wood), John Simonite (Simonite), Lord Milton (Ely), Lord Raglan (Bowers), Marshal Ney (Headly), Rev. G. Rudrick (Reeves), and Rifleman (Wood). *Pink and Purple Bizarres*.—Falconbridge (May), James Taylor (Gibbons), Lord Clifton (Puxley), Purity (Wood), Sarah Payne (Ward), and Satisfaction (Bowers), a new flower with beautifully formed petals; very distinct. *Purple Flakes*.—Dr. Foster (Foster), Earl Stamford (Elliott), Excellent (Hooper), Florence Nightingale (Sealey), Mayor of Nottingham (Taylor), James Douglas (Simonite), Premier (Milwood), Squire Trow (Jackson), True Blue (Taylor). *Scarlet Flakes*.—Africana (Puxley), Annihilator (Jackson), John Bayley (Dodwell), Mars (Puxley), Mr. Battersby (Gibbons), Sportsman (Hedderly), Superb (Ingram), and Clipper (Fletcher). *Rose Flakes*.—Flora's Garland (Brooks), James Merryweather (Wood), John Keet (Whitehead), Lovely Ann (Ely), Mrs. F. Burnaby (Turner), Rose Magnificent (Reeves), Sybil (Holmes), Mary Ann (Fletcher), and Samuel Newman (Hooper).

PICOTEEs.—*Red-edge*.—J. B. Bryant (Ingram), John Smith (Bowers), Leonora (Fellowes), Miss Small (Fellowes), Mrs. Bowers (Bowers), Mrs. Dodwell (Turner), Novelty (Matthews), Mrs. Hornby (Turner), Peeress (Turner), Princess of Wales (Fellowes), William Summers (Simonite), Thomas William (Flowdy). *Purple-edge*.—Alliance (Fellowes), Ann Lord (Lord), Cynthia (Turner), Alice (Lord), Jessie (Turner), Minnie (Lord), Mary (Simonite), Mrs. Little (Hooper), Mrs. Niven (Marris), Mrs. Summers (Simonite), Picco (Jackson), Rival Purple (Hooper), Zerlina (Lord), Sylvia (Simonite), and Prima Donna (Simonite). *Rose and Scarlet-edge*.—Brilliant (Payne), Edith Dombain (Turner), Ethel (Fellowes), Idalia (Fellowes), Estelle (Fellowes), Lady Louisa (Abercrombie), Fanny Helen (Niven), Juliana (Turner), Mrs. Allcroft (Turner), Miss Wood (Wood), and Purity (Payne).

There are many other interesting objects at Slough, which must be reported on at another time. Especially fine were the Chrysanthemums, a new flower for Mr. Turner, but he has taken it up with his usual spirit, and has also hit on a plan which promises to be a great success. There are two or three hundred standards with stems 3 or 4 feet high. About 150 of these have been grafted with four or five distinct varieties on each head, and the grafts have taken remarkably well. These plants are quite a new feature in Chrysanthemum culture, and will have a very remarkable effect.

LARKHALL RISE, CLAPHAM.

The collections of Carnations and Picotees belonging to E. S. Dodwell, Esq., I also visited, and found it in the same condition as that of Mr. Turner's—just a week too late for the show. There were many fine flowers at their best, and the plants were also in splendid condition, showing the care that has been bestowed upon them; and how well they repay the ardent cultivator in our large cities and towns, this and many other collections abundantly testify. Mr. Dodwell's collection is most select as to varieties. Being an excellent judge of what constitutes a first-class flower, and having ample opportunity of becoming acquainted with them when in the hands of the raisers, Mr. Dodwell selects all that he deems worthy of culture, and after he has proved them under his own care, if they do not come up to the florist standard they are rejected. There are, for instance, some flowers which do well in the north but are worthless under our treatment and southern climate. I may mention in Picotees a light red-edged variety named Thos. Jivens (Flowdy); its raiser has taken "premium" with it at Newcastle, but Mr. Dodwell and I have both discarded it. In Carnations Mrs. F. Burnaby is one of the finest rose flakes under a northern sky. Mr. Dodwell I do not think grows it, and with me the colour is so pale that, though I had good blooms of it at the show, I did not venture to place it in the stands or even stage it as a class flower. Guardsman (Turner), is a very showy scarlet bizarre, but it is much better adapted for the border than being placed as an exhibition

flower in the south. We ought to be very careful, then, in condemning any flower merely because it does not happen to do well under our treatment; others may cherish what we reject. Amongst a great number of fine blooms I noted the following:—

Sir Joseph Paxton (Ely).—A noble scarlet bizarre. As seen here the petals are large, broad, and beautifully cupped. It seems to be a different flower from that grown at Loxford under the same name.

Capt. Stott (Jackson).—A very beautifully marked crimson bizarre. The colours of this flower were very bright and the petals well formed. It is a very desirable sort.

Warrior (Slater).—In the same class I noticed as being an indispensable flower both for the home stage and exhibition. It is of the same type as *Capt. Stott*.

Rev. George Rudrick (Reeves), is another crimson bizarre with smooth petals and the colours of the *Jenny Lind* type but brighter. The most showy flower in the collection.

In *Picotees*, *Clara* (Bowers) arrested my attention as being very pretty; the edge seemed to be slightly serrated, an unpardonable offence as a florists' flower, but the colour was very bright white, pure, and a sort no grower should lack.

Cynthia (Lord), is a very pretty light-edged rose; a very refined flower that will be an acquisition in a class rich in first-rate examples.

When looking over this fine collection I could but wish, and have every reason to hope, that the culture of Carnations and *Picotees* will be extended to the owners of villa gardens close to our large cities, for these flowers will flourish where Roses and many other flowers barely exist. We want to see something different from the scarlet *Geraniums*, *Calceolarias*, *Chickweeds*, *Houseleeks*, ribbon borders of Beet and variegated Tobacco plants, Cabbage, Kales, &c. We want sweet and beautiful flowers that can be cut and placed in vases where a few pleasant moments may be spent admiring them and discussing their points.—J. DOUGLAS.

NOTES AND GLEANINGS.

WE have received the schedule of the "GREAT INTERNATIONAL FRUIT SHOW" which is to be held at the Alexandra Palace on September 13th, 14th, and 15th. The schedule is divided into ten divisions, and contains sixty-seven classes; the amount offered in prizes being about £350. For a collection of sixteen sorts of fruits the prizes are £16, £12, and £8. There are also good prizes for collections of twelve sorts of fruits. Pines have three classes, and Grapes twenty. For eight varieties, one bunch of each, the prizes are £8, £6, and £4. There are six classes for three bunches each of six specified varieties, and a similar number of classes for single bunches. Prizes are also provided for the best-flavoured black and white Grapes, bunches to weigh not less than 1 lb. each; also prizes for the heaviest bunch of black and white Grapes. Classes of this nature have brought out mammoth bunches in the north, but in the south the "big" bunches exhibited have been comparatively poor and rarely worth the prizes awarded to them. A class for one bunch of not less than 1 lb. weight, showing the finest bloom and finish, would have been worthy of a place in the schedule. A similar class has brought out splendid Grapes in the north, and will probably do so at Carlisle. As the compilers of the Alexandra schedule have "gone in" so largely for Grapes it is unfortunate that a class of the nature alluded to has not been provided. Hardy kinds of fruit are well provided for, and there are several classes set apart for foreign exhibitors only. For a collection of sixteen varieties of vegetables prizes of £6, £4, and £2 are provided, and similar amounts are offered for a dinner-table so arranged as to show the best means of utilising fruit and flowers in its adornment. Good prizes are provided for cut flowers—*Dahlias*, *Asters*, and *Hollyhocks*; but there is no class for *Gladioli*.

A CORRESPONDENT, in referring to the MARQUIS OF BUTE'S VINEYARD, says that if as much sagacity were exhibited by English as by French cultivators that Grapes would be grown on the sunny slopes of hills in the southern counties. He states that if terraces were formed in favourable positions in England the same as is the case in France, and ordinary cultural care was exercised, that there is no reason that such early Grapes as the Black Cluster and Royal Muscadine should not ripen profitable crops in sheltered localities. He submits that very little, if any, more heat is required to ripen early varieties of Grapes than is required to ripen Tomatoes, which he observes are now grown as field crops in the valley of the

Thames. He remarks that he has seen Grapes ripen in warm valleys in France where the Wheat harvest on the hills is little if any earlier than the harvest in Kent and Sussex.

WE last week alluded to the wholesale manner in which Tomatoes are grown in the London market gardens, and not much less remarkable is the appearance presented by acres of VEGETABLE MARROWS. In Messrs. Bagley's grounds the plants were turned out under handlights about the 22nd of May, the station for each plant being made with a large barrowful of fermenting manure. The plants are about 16 feet apart, and so rapid has been their growth that the ground has been completely covered for some time, and thousands of fine Marrows have been sent to market. The growth is never pruned nor stopped, but rambles at will, and it is surprising how fruitful the plants are. The sort grown is the old cream-coloured Marrow, but is a longer variety than is commonly met with in private gardens. Vegetable Marrows are in great demand by the London public, and they will probably be used to a greater extent than usual this year for preserving for winter consumption, since fruit is so scarce and dear, and Vegetable Marrow jam is much relished by children.

ALLUDING to the article ON MELONS on page 65 "A SOUTHERN GROWER," who was a successful exhibitor of them last year, states that his Melons in frames are not doing so well this year as they did last year. He attributes this to the cold weather during May and the early part of June, which checked the growth of the plants in their early stages; and Melons, he remarks, should not receive any check either by low temperature, excessive pruning, or lack of water. Last year his Melons in frames were the best; this year those in houses are in the most satisfactory condition.

OUR correspondent "A NORTHERN GARDENER" states that in his opinion there is a disease common amongst CUCUMBERS quite distinct from that figured by Mr. Smith. He has seen Cucumbers grow with great luxuriance and with apparently healthy root action, and certainly without any nodosities on the roots, and yet the leaves and shoots become so suddenly and severely affected as to render the crop worthless. He does not think it is caused by mites in the soil, because the extremities of the growths are first and chiefly affected, the lower portions of the plants appearing quite sound and healthy, while in the disease figured by Mr. Smith the lower portion of the plants are the first to afford evidence of the malady that affects them so seriously. Cucumbers, he remarks, are more liable to what he calls the "root disease" when grown in light than in comparatively heavy soil.

ONE of the best annuals for spring decoration is *SILENE PENDULA*. It is perfectly hardy, grows freely, and makes glowing pink beds or lines in April and May. It is alluded to now because the present week is the best time for sowing seed. It should be sown thinly in drills, and the plants be thinned early to 6 inches apart, in order that each plant can become sturdy and hardened by thorough exposure to the air. Frequently the *Silene* is not sown until September, which is too late, the plants not having time to become large enough for covering the ground quickly, and flowering early, strongly, and profusely. The variety *S. p. compacta* should not be overlooked, well-grown plants in 5-inch pots produce a charming effect in the early spring months. This variety is becoming popular in Covent Garden Market, which is good evidence of its merits as a decorative plant.

WE have received from Mr. W. Lovel, Weaverthorpe, York, a little pamphlet detailing "HOW TO GROW STRAWBERRIES WITH SUCCESS." The author states that his object is to give some "plain cultural directions, the result of practical experience," on a subject with which he appears well acquainted. The pamphlet appears at an opportune time, and contains good and reliable advice on the cultivation of this esteemed fruit.

A SHORT time ago Mr. Douglas alluded to the adaptability of *FUCHSIAS* FOR TRAINING ON THE ROOFS OF GREENHOUSES, and he enumerated some varieties suitable for that purpose. One, however, that he did not name, although an old variety, is one of the best for that or any other mode of culture—viz., *Venus de Medici*. This extremely free-flowering and very elegant *Fuchsia* is now in fine condition at Kew, both as trained on the roof of one of the houses and also as a column or slender pyramid reaching to the roof of the temperate house. Many *Fuchsias* are planted in the borders of that house and are nearly 20 feet high, but no variety is more beautiful than

Venus de Medici, its healthy glossy foliage enhancing the effect of the blush sepals and purple corolla.

— We regret to hear that the POTATO DISEASE is very prevalent in some parts of Cornwall, the American sorts being the most severely affected. A resident in the district states that "it is worse than has been known for some years."

— It is not often that a new plant attains popularity so quickly as has been the case with Harrison's new Giant Musk, *MIMULUS MOSCHATUS HARRISONI*. It is already established as a market plant, and will shortly be as common on the flower-barrows in the London streets as are Fuchsias, Heliotropes, and Geraniums. As a window plant, a greenhouse plant, and probably as a bedding plant in cool and rather shaded situations, it is likely to become fashionable. Its flowers are not only conspicuous and attractive, but are produced profusely and continuously, and the fragrance of the plant is nearly if not quite equal to the common Musk—qualities which have established it in popular estimation, and rendered it in a comparatively short period a general favourite.

CLAYTONIA VIRGINICA.

THE Claytonias are hardy herbaceous perennials which were more popular half a century ago than they are now. Old



Fig. 26.—*Claytonia virginica*.

plants are, however, being inquired after again, and we happen to be able to answer the question of a correspondent, "Taro," who asks "what sort of plants the Claytonias are," by publishing a figure of one of the oldest of the species. The genus was named after John Clayton, a collector of plants in Virginia. The plant figured was introduced to this country in 1740; it only grows a few inches high and has pretty white flowers. It succeeds best in a moist soil and a shady situation, and is seldom found except in botanical collections. This species is also known as *C. tuberosa*; the roots are eaten in eastern Siberia.

ANNUALS FOR AUTUMNAL SOWING.—As the season for sowing the above is fast approaching I hope that some of your amateur garden readers and workers will interchange opinions on the best annuals for this purpose. I have found the following

to succeed best:—*Godetia*, most beautiful and lasting; *Virginian Stock*, very early, and lasting in flower much longer than when sown in spring; *Saponaria calabrica*, very good; and *Sweet Alyssum*.—G. O. S.

THE SUCCULENT HOUSE AT KEW.

THIS house, which is represented in the accompanying illustration, is generally acknowledged to be one of the leading features in the Royal Gardens. The structure is 200 feet long and 30 in breadth, affording from one end to the other an unsurpassed view of the most characteristic types of vegetation adapted to flourish in dry regions.

Immediately on entering at the north end we find in flower several of the *Stapelias*, or Carrion-flowers of South Africa. Two of these, *S. primulina* and *S. Sarpedon*, are quite new; the former is not much unlike the flower of a Primrose, and is singular in the genus from being of nearly the same colour. *S. Sarpedon* is a fine flower, nearly 5 inches in diameter; it is vinous purple in colour, with pale cross-bars, and the edges are fringed with fine hairs. *S. angustiloba* has remarkably narrow corolla-lobes. *S. bufonia* is really handsome, and also one of the most easily cultivated. The flower is yellow, wrinkled on the surface, and variously spotted with dull purple. Many others are in bud or flower, and the collection is particularly rich in new and undescribed species.

The new genera, *Decabelone* and *Hoodia*, are both represented, the former by *D. Barklyi* and *D. elegans*. The stems of *D. Barklyi* are indeed pretty, having no equal in any of the allies. The flowers have been compared to Foxglove, which it resembles in shape. It has quite the odour of *Stapelia*, but requires to be sniffed from the depth of its tube. The *Hoodia* just referred to was believed to be *H. Barklyi* until its present blooming, when it fortunately proves to be entirely new. The name has not yet been given. It is similar in habit to *H. Gordonii*; the flowers are of much the same colour, but are distinctly cup-shaped.

Turning to the right, attached to an *Euphorbia* is a specimen of the curious *Tillandsia usneoides*, which flowered a short time ago for the first time in this country. It is the "Old Man's Beard" of the south United States and the West Indies. It has narrow leaves and slender stems, hanging in twining masses from the branches of trees, and is covered all over with white scales, as if bedecked with hoar frost. It is used for packing and other purposes, even inclusive of medicine. The flowers are green and inconspicuous.

Of *Euphorbias* there is an unrivalled collection, including many species yet unnamed. One may be mentioned in particular: the stem is divided by constrictions into short joints, where it then expands into broad wings, bearing enormous spines $1\frac{1}{2}$ or 2 inches long, spreading in all directions. *E. stellaspina* is choice and rare, while *Cereus*-like in shape it is covered with branching spines. *E. resinifera* is most important from an economic point of view. It yields the true euphorbium, a drug used by the ancients, and though now obsolete as an internal remedy twelve cwts. were imported in 1870, perhaps for the composition of a paint used to preserve ship-bottoms, it being said to be in some demand for the purpose. Its collection was described by Dioscorides and Pliny, though until a few years ago the true source was unknown to botanists. Unmistakeable as the *Euphorbias* usually are, they sometimes bear a close resemblance to plants widely distinct. *E. mammillaris* in some of its shoots is extremely like *Echinopsis cereiformis*, and which, allied to *Stapelia*, was sometime ago known as *S. cylindrica*. *Sarcostemma Brunonianum* was found some time ago doing duty for *Euphorbia pendula*, the one yielding a refreshing juice, and the other poisonous. A grand specimen of *E. canariensis* faces the door, spreading its square succulent branches almost to the width of the bed. A nearly allied genus, *Pedilanthus*, is peculiar from the foot-shaped form of the flowers, and *P. tithymaloides* is now in bloom.

Bromelia antiacantha, or *B. scepterum* as it is more often called, is now in striking condition; the lower bracts, a foot long, are flame scarlet, those subtending the flowers are pure white, some with scarlet tips. The inflorescence measures $1\frac{1}{2}$ foot in height; the flowers occur in clusters, and are of an unusual violet purple. The mutual dependence between plants and insects, apart from the subject of fertilisation, is beautifully illustrated by *Acacia spærocephala*, the Bull's-thorn *Acacia*, and a species of ant, both found in Nicaragua. In this *Acacia* the stipules are transformed into immense hollow

thorns, wherein the ant makes its home, and finds food also growing on the same tree. Every leaflet develops at the tip a little body, which apparently has no other use than to serve as food. In return for all this hospitality the ant acts as guard

against enemies, keeping off those insects which would otherwise affect the tree.

The Aloes constitute a genus to which much attention has lately been given, resulting in the discovery of new species



Fig. 27.—THE SUCCULENT HOUSE AT KEW.

under old names, and considerable change in the nomenclature. A plant long known as *A. Salm Dyckiana* proves undescribed, and is now called *A. platylepis*; there is also a variety *lutea*. *Aloe cæsia* var. *elatior* is quite a distinct species, and now to be called *A. drepanophylla*. For several years a beautifully spotted kind has been grown without name in gardens, though

supposed by some to be a form of *A. grandidentata*. This it is not, and will shortly be published as *A. tricolor*. *A. Greeni* is a splendid new form; the leaves are long, curving to the apex with large spines, and light green in colour with bars of pale spots. The first results, we believe, of hybridising Aloes may here be seen. One is exactly intermediate between its parents

A. albocincta and *A. grandidentata*, the same plant being produced by reversing the cross. It may be described as a spotted *albocincta* with large spines. *A. Thraski* is most distinct, the leaves being channelled in the way of *Yucca concava*. *A. dichotoma* was perhaps the rarest of all until the recent distribution of seedlings from Kew. It is one of the branching species, which in Damaraland and Namaqualand forms a large tree. It roots with great difficulty, and an imported specimen appears neither inclined to grow nor die.

Beaucarnea Hookeri is one of the queer examples of Mexican vegetation, and two plants are about to flower. They have immense almost globular boles, from which spring a number of grass-like tufts. The Elephant's-foot (*Testudinaria elephantipes*) is represented by a fine specimen, and the flowering stems form a column reaching to the roof. Its hemispherical trunk is about 2 feet in diameter, and presents a strange appearance by the splitting of the bark into large conical scales.

Next in order come the *Gasterias* and *Haworthias*, both including new species, and the latter in particular with pretty forms, some as it were sprinkled with pearls.

Arundo conspicua at the cool end is a fine object for many months in the year, and though hardy is almost an essential inmate of the conservatory. It is much more elegant than the Pampas Grass. Here are several fine examples of *Dasylium* and *Beaucarnea*, which are among the most stately of greenhouse plants, either with long ribbon-like leaves gracefully curving and drooping to the stem-base, or with rigid spiny and glaucous leaves forming a dense head.

The *Crassulaceae*, commencing at the south end, contribute many showy flowers in their season, and include some of the most attractive and useful of succulent plants. *Crassula cordata* is curious from the multitude of little plantlets growing on the old flower stems. *C. Bolusi* is new and extremely pretty; it is scarcely 2 inches high; the leaves are obspathulate, with numerous pits darker-coloured than the rest of the leaf. *C. nemorosa* is rare and most attractive; the leaves are heart-shaped, very fleshy, and deeply glaucous. The *Rochas* now fall into this genus. *C. pallida* is white-flowered, in the way of *C. perfoliata*. *Cotyledon* and *Echeveria*, including all the noteworthy species, with several hybrids, must here be passed over.

The Cape Groundsels are striking in comparison with other species of *Senecio*. One is precisely like an Ivy with large yellow flowers. *S. articulata* is the well-known Candle-plant. *S. Haworthii* flowers in cultivation with extreme rarity; it has spindle-shaped leaves covered with a dense white cottony felt. *S. chordifolia* is new; it has curved terete leaves longer than others of the section *Kleinia*, to which it belongs. *Othonna crassifolia* in one of the cases forms an elegant groundwork for the several *Echeverias* with glaucous leaves; being of a very pale green it shows them off to advantage.

On this shelf are two highly ornamental plants of *Oldenburgia arbuscula*, doubtless the only examples in cultivation. Their stems are nearly 2 feet in height, growing with extreme slowness; the leaves are a foot long, covered with white hair. It is surprising to many that this belongs to the *Compositae*. With the mention of these unique specimens we are brought to *Dyckia argentea*, a plant still more striking, and the only one in Europe. The leaves are 2 feet long, and recurve on the pot so as to hide it completely; they are set with large spines along the edges, and are covered with silvery scales so as to appear like frosted silver.

Vitis macropus always arrests attention. Widely different as it is in form from the Grape Vine, it is still nearly related. It has an obese succulent trunk with two branches bearing a few heavy leaves. The stems increase with great slowness. The year's growth is nearly all cast off with the leaves, leaving generally less than an inch. The separation is quite natural. *V. cirrhosa* produces stems several feet in length, all to be cast off with the exception of about 2 inches. By a recent observation it is shown that some plants (of which *Castilloa* is a good example) separate their barren branches by an articulation just as a leaf. The fertile branches are cast off in other cases. Those of *Reidia glaucescens* resemble pinnate leaves, and, though bearing flowers, are often seen to fall without suspicion of their real character.

The *Agave* group is without doubt the most imposing in the house. The finer specimens are those of *A. glaucescens*, *A. potatorum*, *A. Hookeri*, *A. Kewensis*, *A. karatto*, and *A. Noackii*, with its several branching stems. Several others might be mentioned in point of size. The collection has

several new additions, and includes the older choice kinds. Almost at all times there are to be found plants in some condition of flower or fruit. *Fourcroya Selloa* and *F. cubensis* are now sending up their quick-growing scapes.

The Cacti, though yet unmentioned, are of the first importance. With the exception of about two species all are native of the New World. Many are grotesque to a striking degree, often with flowers of the most brilliant colour. Among the prettiest of the *Mammillarias* are *M. Schiediana*, *M. candens*, *M. nivea*, and *M. minima*. Of *Echinocactus* we may draw attention to the new *E. cylindraceus*. It has very long spines of red colour, and is quite fierce in appearance. *E. viridescens* is also new and distinct. Of *E. Pfeifferi*, *E. Stainesii*, and some others there are very fine specimens. *Echinopsis* also contains many fine representatives. The Turk's-cap is now in bloom; its flowers are pink, and come from between a mass of spines and thick hair forming the cap or inflorescence. It is said that the fruit is sometimes ejected to a considerable distance in consequence of pressure from the spines and hair.

Leuchtenbergia principis is about to flower, and is anomalous in bearing its flowers on the mammæ, which perhaps submits to the same explanation as of those cases where the peduncle in *Erythrochiton* and *Helwingia* is united with the stalk and midrib of the leaf. *Rhipsalis Cassytha* is covered with berries like Mistletoe; the stems are round and long.

A large space is devoted to the gigantic species of *Cereus*, and to the Prickly Pears or *Opuntias*. Of *Opuntia decumana* there is a large specimen, the flat stems of which excite general notice. *Cereus Jamacaru* planted in the ground has grown with immense strength. It has deep-angled stems of glaucous blue appearance. We may briefly allude to *C. multangularis* and *C. Tweediei*. The first is rare and densely covered with short spines so as scarcely to admit the point of a pencil.

On the rafters are many interesting plants. A leafy Cactus, *Pereskia Bleo*, is bearing its large pink flowers. Further on are fine specimens of *Cereus Macdonaldii*, *C. triangularis*, and other night-blooming species. *Aloe ciliaris* suits well as a climber, and has very brightly coloured flowers.

While having mentioned the most important and interesting of the plants, there are many others deserving of notice. Several of the Cacti, the species of *Asparagus*, the Grass-gum trees, frutescent *Sempervivums*, *Rhynchoptalum montanum*, a rare *Lobeliad* with tall perennial stem, and many others, are deserving of the visitor's attention.

NATIONAL CARNATION AND PICOTEE SOCIETY.

THE northern Show was held again this year in the Botanical Gardens, Stretford, Manchester, on Saturday, Monday, and Tuesday, August 4th, 6th, and 7th, in conjunction with the Cottagers' Flower Show held this year for the first time. It was not expected that a good show could be held at so early a date; none of the growers were quite at their best, and some of them were not able to exhibit, notably Mr. Robert Lord of Todmorden and others in that district; another grower whose flowers were not in condition is Mr. Thomas Bowers, Bradford, Yorkshire, a celebrated raiser of new sorts and a most ardent cultivator. Notwithstanding the many drawbacks the Society has had to contend with this year, about three hundred blooms were exhibited fresh and in good colour. I noticed last year that some of the exhibitors had but the calyx round in order to let the outer petals fall back and thus enlarge the flower, and I have been told that some exhibitors have even added a sound calyx from another flower in place of one that has been split. Of course none of the principal growers would stoop to such practices, and the first rule of the Society provides for the disqualification of any stand that has mutilated flowers. It reads thus: "Any stand containing a mutilated flower—i.e., one with a false pod, petals clipped smooth, or calyx clipped, will be disqualified." Rule 5 says: "Flowers having self petals or bizarre petals in flakes, or inserted petals, will be disqualified."

I am indebted to Richard Gorton, Esq., of Gildabrook, Eccles, for the following notes of the Show and list of awards. The principal prizes went to Mr. Benjamin Simonite, Rough Bank, Sheffield, who showed some grand flowers, especially in purple flake and crimson bizarre Carnations. Mr. George Rudd of Bradford, Yorkshire, also exhibited some excellent stands; his scarlet bizarre Carnations, notably Sir J. Paxton, were in splendid colour. In Class A, twelve Carnations all dissimilar, Mr. Simonite was first; Mr. J. Booth, Failsforth, Manchester, second; and Mr. S. Brown of Birmingham third. In the winning stand Dr. Foster (Foster), p. f.; John Keet (Whitehead), r. f.; James Merryweather, r. f.; and Sportsman, s. f., were the best flowers. Mr. Booth had Admiral Curzon and Sportsman very fine. In the next class Mr. Simonite was again first, Mr. Brown

second. Mrs. Allcroft, Mrs. Niven, Miss Sewell, and one or two seedlings were fine. Class C, twelve Carnations, not less than nine varieties, Mr. George Rudd was first and Mr. R. Gorton, The Woodlands, Eccles, second. In Mr. Rudd's stand the blooms of Sir J. Paxton were marvellous examples of size and quality; Admiral Curzon, Mars, Clipper, and Marshal Ney were very fine. In Mr. Gorton's stand the best flowers were Christigalla, r.f.; Sybil, r.f.; Eccentric Jack, c.b.; and Dr. Foster, p.f. A third prize was awarded to Mr. Brown, and fourth to Mr. Thomas Mellor. Class D is a corresponding class for Picotees, and here Mr. Rudd was again an easy first, his best blooms being Zerlina, Alliance, J. B. Bryant, Mary, and Fairy Queen, the latter a light-edged rose of good quality. Mr. Brown was second, and Mr. T. Mellor third. In Class E, six distinct Carnations, and limited to growers of 120 pairs, Mr. Stack of Chesterfield was first, and Mr. Taylor of Middleton second. Class F is a corresponding class for Picotees, and here the first honours went to S. Cooper, Esq., of Timperley, Cheshire; Mr. Taylor of Middleton being second and Mr. Slack third. In Mr. Cooper's stand Ann Lord and Mary were good blooms.

We come now to the classes for single blooms, where Mr. Simonite was again champion; he won first, second, fourth, and fifth in scarlet bizzarres with Dreadnought, Seedling, Mars, and Admiral Curzon; Mr. Booth was third with Admiral Curzon. In crimson bizzarres Mr. Simonite won all the five prizes with J. D. Hextall, to one of which the blue ribbon of the Exhibition was awarded, and a grand specimen it was, full of petal, colour, and quality. In scarlet flakes Mr. Rudd was first with Sportsman, second with Clipper; Mr. Simonite third with a seedling, and Mr. Booth fourth and fifth with Sportsman. In rose flakes Mr. Booth was first with Sybil, the remaining prizes going to good blooms of James Merryweather and John Keet. In purple flakes Mr. Simonite gained all the prizes, the winning blooms being placed in the order of their names—Dr. Foster, James Douglas, Mayor of Nottingham, James Douglas, and Squire Meynell.

In light red Picotees Mr. Simonite was first, second, fourth, and fifth with his own seedlings, Mr. Cooper third. The first-prize flower in this class was of excellent quality. In the heavy red class Mr. Booth was first with J. B. Bryant, and Mr. Gorton second with Miss Small. In light purple edges the first prize went to a seedling, the remaining five prizes going to Mr. Cooper for fine blooms of Ann Lord. In heavy purples the three first prizes went to Mr. Chadwick, Ashton-under-Lyne, for blooms of an unnamed seedling, the three last prizes to Mr. Booth for Picco. Heavy rose-edged was a poor class. Mr. Chadwick was first and Mr. Booth second with Mrs. Lord, Mr. Gorton third with Juliana. In light rose Mr. Simonite was first with a fine variety of his own raising, named Teresa; this was also selected as the premier flower in the Exhibition. The other varieties that gained prizes in this class being Miss Wood and Miss Sewell.

Mr. Simonite had made a mark in the floral world at many previous exhibitions, but I question whether he ever stood so high as he has done on this occasion. He may not only be proud of showing the premium Carnation and Picotee, but the flowers were both his own seedlings; and if his flowers had been at their best, even better varieties would have been shown, especially in the crimson bizarre class of Carnations, and light red Picotees. In the former Samuel Barlow, John Simonite, and Frank Simonite are all advances on existing varieties. In the latter his Mrs. Simonite is a model of what a Picotee ought to be; it is a red-edged Mary with pure white petal. Mrs. F. D. Horner and Mrs. R. Gorton are also fine light-edged reds worthy of a place in the best collections. It was a misfortune that Mr. Lord's flowers were not in, as some of his seedlings not yet distributed are of high-class quality. I question if there are any flowers in the heavy rose class to be placed before Miss Horner; and his Mrs. Dodwell, rose-flake Carnation, is a most refined flower.—J. DOUGLAS.

PAINTING.

WHAT can be more annoying than, after being at the expense of constructing and painting a fine large glass house, to find the whole of the internal paint covered with a black fungus? This has been my case, and to remedy this evil I made the following experiments. Five years since I had an orchard house painted with a thin kind of creosote, at a temperature of 180° or thereabouts. In a month after this painting I painted a door of this house with only one coat of paint (oil and white lead). This coat still looks well and there is not a particle of mildew or fungus to be seen on it. Since that time I have carried out the same mode to some considerable extent, and nothing can look better. The creosote gives a good smooth body, it destroys all germs of fungus, and at half the expense of labour and material. Many persons are now adopting my plan. The creosote to be used costs 5d. per gallon; it is not the common sort, but that used for steeping timber without

being heated. I always heat it, as it penetrates the wood much better and dries more rapidly. I can strongly recommend this mode of painting for any kind of work.—OBSERVER.

EXPERIMENTS ON THE FLOW OF THE SAP.

[Read at the Scientific Committee of the Royal Horticultural Society.]

(Continued from page 71.)

THE system of vegetable physiology now in credence was built upon the faith of the existence of a circulation of the sap, and everything has by degrees been arranged to fit neatly into it. I think I have shown to be rotten Sachs' theory, and in removing it, without having any other props to put in its place, down must come the hypothesis that the plant derives all its carbon from carbonic acid in the atmosphere, or its nitrogen from free uncombined nitrogen through the leaves, and, of course, all power of taking anything into the system through the leaves, and all hypotheses of feeding, whether vegetarian or carnivorous, through these organs. These theories of circulation by imbibition, diastasis, endosmosis and exosmosis, I regard as already defunct. Six weeks' unavailing effort to get the slightest indication of any of these phenomena in the living plant seem enough for me. The current is steadily upward, and not only permits nothing to come down against it, but is too powerful to permit anything to deviate from its own place and force its way into another, even by uniting with it on the way upwards. I say, therefore, that for a plant to absorb carbonic acid whether free or combined through the leaves for the purpose of supplying it with that important element involves a physical impossibility, and yet this is one of the best-received vegetable physiological hypotheses. It has the advantage of giving a glimmer of an explanation how plants may have first originated. They consist of carbon, nitrogen, and mineral ingredients, besides oxygen, which may be derived from the latter. It is open, then, to say that plants derive their mineral constituents from the degradation of rocks, and their carbon and nitrogen from the atmosphere—and some plants (as Lichens) may. But when we come to test the hypothesis by common sense and experience they tell us all that you may try to grow a plant in mineral ingredients and leave it to get its carbon from the atmosphere as much as you like, but it won't grow. As far as common people can see it will only thrive in humus, in other words where its roots can draw carbon from the organic matters already elaborated in the soil by the long-continued accumulation of past ages. But Sachs states it very broadly. "The fact is unquestionable," says he, "partly established by direct researches on vegetation, partly inferred from the circumstances under which many plants live in a natural condition, that most plants which contain chlorophyll—e.g., our cereal crops, Beans, Tobacco, Sunflower, many saxicolous Lichens, Algae, and other water plants obtain" (through the leaves—he does not say so here, but it is implied, and is of the essence of his theory) "the entire quantity of their carbon by the decomposition of atmospheric carbon dioxide, and require for their nutrition no other compound of carbon from without."—(Sachs' "Text Book" (*Dyer's Trans.*), p. 620.)

Now in the first place one of the principal of the circumstances to which he certainly above alludes must be the influence of light on assimilation, his interpretation of which I have endeavoured to refute. Next I may mention another phenomenon which seems to me equally adverse to his views—viz., that the plants of which we are speaking exhale oxygen during the day, and carbon during the night. If carbon in whatever form passes up from the root to the leaves during the day, and a chemical decomposition takes place whereby it or other ingredients are altered in their way, oxygen must be liberated, and after being carried on with the stream of sap will be set free when it reaches the leaves, while the carbon will be used up in the plant; and this is just what takes place by day. But at night, when no feeding or assimilation is going on, no chemical action takes place either, but the carbonic acid with which the sap is charged escapes through the thin cuticle of the leaf, as from an uncovered vessel, without any interchange of oxygen at all.

As to the experiments referred to by Professor Sachs, I believe the principal one was made by De Saussure about the beginning of this century (1805), but unhappily I have been unable to see the paper containing it. I know no recent experiments with carbon. As recorded, Saussure's experiment proved that plants in sunlight increase in their amounts of carbon, hydrogen, and oxygen at the expense of carbonic acid and water. But there is no indication whether he attempted to determine whether the carbon was taken up by the leaves or the roots; and as that was not what he was trying to find out, I am disposed to infer that no precautions were taken to decide that point. He seems to have been very careful in measuring the contents and constituents of the air, the plant, and the earth; but as it is plain from that very fact that they were all three subjected to the same experiment at the same time, I do not imagine that the experiment could touch our point.

It must not be inferred that I dispute altogether the possibility of the air supplying a portion of its carbon to the plant. Carbonic acid may be carried down into the earth by showers, and there put in a fit condition for the plant which may then take it up by the roots. All that I say is, that it does not enter free into the plant through the leaves, and that the idea of its descending from them, and supplying the plant with carbon for its structure, is an absolute impossibility.

With a glance at one other class of experiments which bear on this point I have done. I do not know that Sachs has relied on it, but other physiologists have. It has been maintained that not only carbonic acid, but nitrogen free and uncombined, is taken up by the plant through its leaves, and it is plain that if the one can be so taken up there seems no very good reason why the other should not also—possibly not so readily, but still taken up. Both are constituent gaseous elements found in the plant, and if it could obtain one of them through the leaves it should follow that it might equally well have obtained the other also. Now with nitrogen the question has been fairly tried by many first-rate chemists and physiologists, and a great multitude of experiments have been made; and although discrepancies have occurred on points which do not concern this question, I think I may say that, with one exception (De Villa), the conclusion has been unanimous in the negative. It would be tedious to mention all the experimenters, but when I name Boussingault as commencing the inquiry, and Lawes and Gilbert terminating it, no question as to the efficiency of the inquiry can arise. Mr. Lawes' concluding words were, "In view of the evidence afforded of the non-assimilation of free nitrogen by plants under the wide range of circumstances provided in the experiments, it is desirable that the several actual or possible sources of combined nitrogen to plants should be more fully investigated both quantitatively and qualitatively."—ANDREW MURRAY.

MR. RICHARD WEBB.

On Thursday, July 26th, at his residence, Culham House, Reading, died Richard Webb, Esq., of Calcot, aged 79. Seven years have passed since we visited this worthy and consistent gentleman at his country residence, and these were our notes upon him and his surroundings:—

We were introduced to ten dogs, and then to sixteen cats, fathers and mothers of fourteen kittens, all alive and not doomed to a brick-and-water death. "Their master must be a kindly man," and so we found him—a lover of animal and vegetable life too—a man who does firmly what he thinks has to be done rightly, and the evidence was before us. There was a stone monument bearing this inscription—

"Beneath this stone lies buried
Our race's deadliest foe;
Myriads he has hurried
Down to the realms of woe.
"More mischief he produces
Than filled Pandora's box,
And more disease induces
Than plagues'd th' Egyptian flocks.
"Evils attend his reign,
Yet thousands own his sway,
And madly hug the chain
That drags their souls away.
"Reader! beware his wiles,
He lurks within the bowl,
And stabs you while he smiles,
Then oh! shun ALCOHOL."

The burial took place more than forty years since, and there were on the occasion committed to their grave three hogsheds of strong beer, two casks of home-made wine, and some dozens of foreign wine and spirits. After the ceremony a harvest-home supper was provided on the lawn under a tent, when nearly 150 persons sat down to a good substantial meal consisting of a roast sheep, two rounds of beef, barley puddings, and a copper of coffee, after which they listened to a good temperance lecture, and then returned home free from any intoxication. There has not been a drop of alcoholic drink allowed in the house or on the premises since, not even for medicinal purposes, nor has the deed ever been repented of, but, on the contrary, rejoiced over.

Calcot includes ten acres, entirely enclosed with a brick wall about 8 feet high, hollow, and with mock chimneys at uniform intervals, justifying a popular comment, "He may well have good crops of fruit, for he warms the walls!" It is especially devoted to fruit-growing, and trees—Pears, Apples, and Plums—all most healthy, and free from disease and moss, are there mostly at judicious distances; but the underwood (for the term is justified by the abundance) is composed of Nut bushes. These are not bearers of common kinds, but of more than thirteen varieties raised by Mr. Webb and shown by him at

the Great Exhibition of 1862. We tasted specimens of their fruit, Cobs as well as Filberts, and, late as the season is, they were all good, but we especially liked those called Eugénie and Garibaldi.

The Nut bushes are never pruned, but they are of an uniform height of about 10 feet. Last year they produced nearly eight tons of Nuts.

Lastly we will note an extraordinary Black Hamburgh Vine. Its stem is 2 feet 3 inches in circumference at the ground's surface; it has eight branches.

No. 1 is about 51 feet long, with laterals	9 feet long.
No. 2 is about 24	10 feet long.
No. 3 is about 24	7 feet long.
No. 4 is about 41	7 feet long.
No. 5 is about 62	In a greenhouse.
No. 6 is about 80	In a greenhouse.
No. 7 is about 80	7 feet long.
No. 8 is about 25	7 feet long.

Thus this Vine covers 1539 feet of wall, without including any part of the roof of the greenhouse which it clothes, nor various portions of branches, which, having taken root, are not to be considered as sustained by one stem—they are rooted layers, but unsevered from the parent. The two largest Vines mentioned by Speechley, are one growing about a century since at Northallerton in Yorkshire, and the other at Bury St. Edmunds. The first covered 1320 square feet, and the second 1233.

MOSS ROSES FOR MARKET.

At every turning in the neighbourhood of Covent Garden we find huge piles, baskets, and bunches of Roses. In whatever way fashion may vary as to flowers in our gardens, there is always a large demand for Moss Roses in London. The white, though not very common, and two or three reds, and a pink one are the kinds principally supplied; and the old Provence Roses, too, are among the most beautiful. The common Moss, a sport from the old Cabbage Rose of our cottage gardens, is not largely cultivated by market growers, the reason being that it is not considered either robust or floriferous enough to give remunerative results. The sort most preferred is a deep red kind, which, though not nearly so mossy as the lighter-coloured varieties, is remarkably floriferous, and the buds being cut before they are too much expanded their mossy surrounding is more noticeable, and consequently the blooms are more valuable. To supply the enormous demand for Moss Roses some market growers near London devote several acres of land to their culture. The plants are, however, seldom grown on one spot, but are distributed about in rows or patches—some occupying a warm border sheltered from the north winds by a wall, hedge, or row of fruit trees, whilst others occupy positions right under orchard trees, the main crop being generally grown on an open quarter. By this arrangement a lengthened season of cutting is secured. The border plants furnish the earliest blooms; these are followed by those under trees; and those in the open quarters give a later supply. As regards culture, the plants are cultivated much after the fashion adopted for Raspberries, with the exception that the old wood of the Roses is allowed to bear several crops before it is cut away, whilst in the case of Raspberries the wood is removed every year. When well established, Moss Roses are so productive of young growths from their bases that it is found necessary to keep the bushes well cleared of both the old wood and the weakest of the young growths. The plants themselves are grown on their own roots, and probably under these conditions much better results are obtained than would be the case were any form of budding or grafting on other stocks practised.

As an under crop Moss Roses are most profitable. They thrive well under orchard trees, and the shelter afforded by the overhanging boughs often saves the buds from frost in the spring, when those in open quarters often suffer severely. The usual mode of increasing the plants is to lift the old shoots, strip them of the outside growths, which are planted in rows 3 feet apart each way. During the first two years after planting vegetable and salad crops are grown between the rows; but the third season, if the Roses do well, they require all the room. As before stated, during the winter the old shoots, as well as the weakest of the young shoots, are thinned out and the most robust are shortened back. The soil between the rows is then forked over, and a heavy mulching of half-rotted manure is applied. Thus treated the plants receive no further attention until the spring, when the blooms are fit for gathering. Some growers plant Moss Roses between Gooseberry and Currant bushes, but it is not a desirable method, as in a very

short time the trees get so crowded that both crops are seriously injured.

Early in June the buds are ready to gather. The plants are gone over each alternate morning, and every bud sufficiently open is cut off; and now the superiority of the red kind above referred to is more than ever apparent. Its buds nearly all open at the same time—that is, all the buds on each truss. This allows of the whole truss being cut at once, which is a great saving of labour, and the produce is of greater value in the market. As they are cut the blooms are laid in large baskets or hampers, which, when full, are placed on waggons and sent to market, where they are rapidly bought up by hawkers and women with baskets, who wire the blooms with a little foliage attached, and sell them for the coat at a penny a-piece. After the plants have done blooming some growers layer the branches on each side of the rows; they are firmly pegged down and covered with soil. In the autumn these will have taken root, when they are lifted and separated from the parent plant, and after being trimmed are used to form new plantations. This is a capital plan, inasmuch as young vigorous plants are easily obtained without severely injuring the existing plantations. Moss Roses and the Poet's Narcissus (*N. poeticus*) are sometimes planted alternately, and the flowers of the latter being all gathered before the Roses come into leaf neither crop is in any way impaired.—W. (in *The Gardener*).

OUR BORDER FLOWERS—BASTARD BALM.

ONE of the least of the families of hardy herbaceous plants, and in all probability it is one of the least known and least cultivated. This cannot arise from their having no attractions. In a botanical point of view they are an interesting family, for it only falls to the lot of a few to have the pleasure of securing specimens of these rare Labiates in their native habitats, but when so seen and secured they are a prize indeed.

They are of dwarf and pleasing habit, and are well adapted for either rockwork, border, or pot. They will bear full exposure, but they are the better for having partial shade afforded them. They require thorough drainage and a good, sound, free loam to develop themselves in. They are increased by division in spring when growth has commenced. Until well established they require care, time, and patience to work up a stock. I have not to the present time been able to increase them from seed.

I only know of three kinds—*Melittis alpina* from Switzerland, of very dwarf habit, adapted for rockwork; very seldom met with. *M. grandiflora* is a charming plant, deserving extensive cultivation. *M. melissophyllum* makes up a trio of no mean order. They are telling plants for exhibition in a collection of herbaceous plants, and cannot fail to repay by their beauty any labour bestowed upon them.—VERITAS.

ARRANGING CUT FLOWERS.

AN article in "St. Nicholas" on the arrangement of flowers contains the following directions which may be read by all who love flowers, and yet have not the knack of arranging them to the best advantage in bouquets or in vases for the table:—

The colour of the vase to be used is of importance. Gaudy reds and blues should never be chosen, for they conflict with the delicate hues of the flowers. Bronze or black vases, dark green, pure white, or silver always produce a good effect, and so does a straw basket; while clear glass, which shows the graceful clasping of the stems, is perhaps prettiest of all.

The shape of the vase is also to be thought of. For the middle of a dinner-table a round bowl is always appropriate, or a tall vase with a saucer-shaped base. Or, if the centre of the table is otherwise occupied, a large conch shell, or shell-shaped dish, may be swung from the chandelier above, and with plenty of Vines and feathering green, made to look very pretty. Delicate flowers, such as Lilies of the Valley and Sweet Peas, should be placed by themselves in slender tapering glasses; Violets should nestle their fragrant purple in some tiny cup, and Pansies be set in groups with no gayer flowers to contradict their soft velvet hues; and—this is a hint for summer—few things are prettier than Balsam blossoms or double variegated Hollyhocks massed on a flat plate, with a fringe of green to hide the edge. No leaves should be interspersed with these; the plate should look like a solid mosaic of splendid colour.

Stiffness and crowding are the two things to be specially

avoided in arranging flowers. What can be uglier than the great tasteless bunches into which the ordinary florist ties his wares, or what more extravagant? A skilful person will untie one of these, and adding green leaves, make the same flowers into half a dozen bouquets, each more attractive than the original. Flowers should be grouped as they grow, with a cloud of light foliage in and about them to set off their forms and colours. Do not forget this.

It is better as a general rule not to put more than one or two sorts of flowers into the same vase. A great bush with Roses, and Camellias, and Carnations, and Feverfew, and Geraniums growing on it all at once would be a frightful thing to behold; just so a monstrous bouquet made up of all these flowers is meaningless and ugly. Certain flowers, such as Heliotrope, Mignonette, and Myrtle mix well with everything; but usually it is better to group flowers with their kind—Roses in one glass, Geraniums in another, and not try to make them agree in companies.

When you do mix flowers be careful not to put colours which clash side by side. Scarlets and pinks spoil each other, so do blues and purples and yellows and mauves. If your vase or dish is a very large one, to hold a great number of flowers, it is a good plan to divide it into thirds or quarters, making each division perfectly harmonious within itself, and then blend the whole with lines of green and white and soft neutral tint. Every group of mixed flowers requires one little touch of yellow to make it vivid; but this must be skilfully applied. It is good practice to experiment with this effect. For instance, arrange a group of maroon, scarlet, and white Geraniums with green leaves, and add a single blossom of gold-coloured *Calceolaria*; you will see at once that the whole bouquet seems to flash out and become more brilliant.

NOTES ON VILLA AND SUBURBAN GARDENING.

IF there is one period of the year more than another when there is some cessation from labour in the garden it is during the month of August. The flowers are then at their brightest, the fruits at their sweetest. It is the harvest of enjoyment, the reward of toil—pleasant health-giving toil in the case of the amateur gardener—the period of repose, brief indeed, but pleasant, and such as all who labour have a right to enjoy. It is a period also for instruction—the time when not only successes can be appreciated, but failures detected and improvements suggested. It is during late summer that the plans for another year should be formed, when the quantities required of different plants—of flowers and vegetables—should be determined on. This cannot be so well effected at any other time. It is those who decide on their plans early who succeed the best; labour and space then become utilised, and waste of either, which is inevitable in the absence of a definite plan of action, is in a great measure avoided.

But in order that a garden may be thoroughly enjoyed neatness must prevail everywhere: there must be no weeds on the walks or the borders. The margins of the beds must be trim, and the lawns must be smooth. The flowers must also be orderly by the removal of decayed parts, and the due use of stakes or pegs to support those which need such assistance. Carnations are now fading—those sweet and beautiful flowers which should be seen in every villa garden in town or country. Some of the best varieties have recently been alluded to in the *Journal*—the high-class florists' varieties; but there are others equally worthy of notice, such as the crimson and white Cloves. Let these be increased. Layering may still be done if it is done promptly: the manner of doing it was lately described in another column. Let any choice Geraniums be increased. There can be no better time for inserting cuttings of these than the present, and no better place than light soil in the open garden. If care is exercised several cuttings may be taken without injuring the plants or beds. When rooted the cuttings can be taken up and potted for preserving through the winter. When the greatest possible numbers of plants require to be wintered in the least possible space cuttings of ordinary decorative kinds should be inserted closely—that is, an inch or two apart, in pots or boxes, there to remain until the spring. The pots must be well drained, and the soil rather sandy and rather firm. The cutting pots or boxes should be placed in a sunny position in the open air. Show Pelargoniums may still be cut down and the cuttings be inserted. Plants which were cut down a fortnight ago will have commenced making fresh growth. When they have grown about half an inch the soil, every particle of it, should be shaken from the roots, and the plants should be firmly potted in small pots.

Plants that are flowering freely, such as Fuchsias, Balsams, Geraniums, &c., will be much benefited by liquid manure. Nothing is better than a little cow, sheep, or horse dung dissolved in water, or failing this, half an ounce of guano, not

more, may be dissolved in a gallon of water and the plants be watered with it twice a-week. Chrysanthemums must be well supported with water. It is only by good attention given to them now that a fine autumn display can be provided.

Small plants of Cinerarias and Primulas must be potted and placed in cool shaded frames, and be kept regularly moist and free from insects. These plants are very valuable for spring decoration. Seed of Calceolarias—the richly-spotted Calceolarias—should be sown now. Drain the pots well, fill them with light sifted soil, water thoroughly, and then sow the seed thinly. A dash of silver sand may be sprinkled over the surface after the seed is sown, and the pots should then be placed in a dark cool frame. If each pot is placed in a saucer containing half an inch of water the soil will be kept moist by absorption, and the seeds will germinate freely: light must then be gradually admitted to the seedlings.

Wall trees and wall plants generally must have their shoots secured, and superfluous growth removed. Nothing is more untidy than disorderly wall trees, and nothing more inimical to future crops of fruit or flowers than overcrowded shoots. These remarks apply with special force to outdoor Vines, which are frequently much injured by permitting the shoots to grow into a wild tangled mass. There are many sunny walls in villa gardens where refreshing Grapes might be produced if the advice given from time to time by Mr. Douglas were strictly carried out.

Kitchen-garden crops must never be overlooked. One of the most important of crops to be provided for now by sowing seed thinly is the crop of Cabbages. If the ground is dry water it well before sowing the seed, and shade it for a few days to assist germination. An excellent small Cabbage is the Cocoon. Carter's Heartwell Marrow is a new sort worth growing, and Enfield Market is one of the best larger sorts. Seed of Cabbage Lettuces may be sown for producing a supply during the early winter months. The Victoria and Hardy Hamersmith are useful sorts. Winter Onions may be sown thinly in drills; the White Tripoli is a serviceable variety, the Giant Rocca often growing thick-necked. The crop of winter Onions is a very useful one, as the bulbs are seldom injured by the grub, which is often so destructive to the spring-sown crops. Remove all decaying Pea haulm, and hoe and rake if needed bare ground, for neatness is a chief element in making a kitchen garden attractive.

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

HARDY FRUIT GARDEN.

THE Strawberry runners have been cut from the parent plants, and they are very strong, though red spider as usual has gained a footing on the leaves. It will be necessary to dip the leaves in soapy water, which will effectually destroy the pest. We have not yet been able to plant out the runners in the open ground, as we could not get the quarter ready owing to a crop of Peas being on it. We seldom have sufficient rainfall for the plants in autumn, and it is always best to plant in a shallow depression in which to retain the water when applying it from the rose of a water pot. Each plant has also a little loam and rich manure placed round the roots to encourage quick growth. "W. S. P." in last week's Journal has written well on the culture of this fruit. It has always been stated that our soil is a sandy loam, and it is of the greatest importance that information should be supplied from different classes of loam. It is also certain that sorts which do well in light soil are often the reverse in soil of a heavy nature. Our estimate of sorts is rather different from that of "W. S. P." We still retain Black Prince for earliest; next Keens' Seedling, followed by President, James Veitch, Auguste Nicaise, Duc de Magenta, British Queen, Frogmore Late Pine, and Loxford Hall Seedling, a most abundant bearer either for culture in pots or out of doors. It was later by a week than Frogmore Late Pine this year. We had to discard Vicomtesse Héricart de Thury, Sir J. Paxton, Elton, Dr. Hogg, and a sort that is now asked for—Anna de Rothschild. La Constante will not be grown again.

Wall fruit trees still require considerable attention. They should be looked over to see that no branches have been displaced, and any growths that are loose must be nailed in close to the wall. If the shoots are not close to the wall they shade the fruit and also look very untidy. If the fruit of Peaches and Nectarines is shaded by the leaves the foliage ought to be removed, else the fruit will not colour well. A leaf on a fruit will cause a green mark, while the rest of the skin may be red. Fig trees should also be looked to. Some persons prefer allowing the young wood to hang loosely about, but this system does not answer in a well-kept garden. Seldom in large gardens is much wall space devoted to Figs, but where it is the shoots must be laid-in to the wall the same as has been already recommended for other trees. The fruit must also be exposed to a certain extent to the sun to bring out its full flavour. Currants, Cherries, and late Gooseberries should be covered with netting to protect

the fruits from birds. We have gathered a few of the earliest Apples, such as Red Juneating, and Irish Peach is also coming in for use. Cherries from wall trees have been bearing most abundantly. Elton and Bigarrean Napoleon have been quite loaded with fruit. Both the above sorts are well worthy of extended culture; the latter is particularly useful, as the fruit hangs so well after it is ripe.

PINES.

Fruit near the ripening stage should be freely ventilated, and to do this in a place where only a few Pines are grown requires that a compromise must be made with plants in growth. The latter require a rather close moist atmosphere, and the house to be closed early in the afternoon. This treatment will not do for ripening fruit, but when we have any of this description in the house we do not shut the ventilators closely, and we also keep the atmosphere of the house a little drier. As soon as the fruit is out the plants are destroyed, unless there are suckers required from them which are not yet large enough to remove. The suckers will grow at a much more rapid rate if they are left on the parent plant until they are of large size. We do not take off and pot small suckers if we can help it. On the other hand, plants which have fruit formed and swelling require the same treatment as growing plants. It is requisite to pay particular attention to the roots at this season. The plants must on no account suffer for want of water. The young plants intended to fruit next summer should be encouraged to make plenty of roots, so that the pots are fairly well filled with them by the end of August. The treatment required must be regulated by the state of the weather, which so far is very changeable, but do not draw the plants by a too close and moist atmosphere.

Orange and Fig Trees in Pots.—If instructions given in previous numbers have been carried out, the surface dressings will have become matted with roots, and the trees will be in good health and well furnished with ripe or ripening fruit. As soon as the Figs are nearly ripe syringing the trees must be discontinued, but if this has been done well so far, spider will not damage the leaves until all the fruit is gathered. Watering at this time must be done in a careful manner: the trees must not suffer by the want of it, neither must they become water-logged from receiving too much; in the latter case the fruit will be watery and flavourless. When all the fruit has been gathered we remove the trees to a cool house where air and light is freely admitted to them, and enough water only is applied to them to prevent the roots from receiving injury. The Orange trees must be kept in a house with the night temperature about 65° or 70°; they ought to be syringed twice daily with tepid water applied with considerable force. The fruit takes a long time to ripen.

GREENHOUSE AND CONSERVATORY.

We have just turned the stage Pelargoniums out of doors, and after being exposed for a few days the plants will be cut down, cutting the growths back to within two or three eyes of the old wood. The best parts are saved for cuttings, rejecting the long-jointed pithy wood. Small shoots with fresh green leaves strike roots freely. The pots with the cuttings should be placed on a stage or shelf close to the glass. About a day or two after cutting-down the plants the wounds will be dried-up, when water may be applied to the roots. If there is no room for the plants indoors a good plan is to place them in an exposed position out of doors, but this does not answer in wet districts, as an over-supply of water will probably cause "spot" on the leaves. The best place is near the glass in a half-span or span-roofed pit. Air should be freely admitted at this season night and day. When the plants have started into growth, and the shoots are about an inch long, turn the plants out of the pots and shake nearly all the soil from the roots, repotting in pots a size smaller than they had been previously potted in. We have arranged a collection of Lilies and herbaceous Phloxes in the place of the Pelargoniums, and a few plants of the most choice varieties of zonal Pelargoniums, which are excellent decorative subjects, and when well treated they flower very freely, producing their brilliant trusses of bloom until the Chrysanthemums are in bloom.

Cinerarias and Calceolarias require to be grown in low-roofed frames or pits, and unless these are shaded by some object on the south side some slight shading should be thrown over the glass to prevent the sun from acting injuriously on the fleshy leaves. No plants are more liable to be attacked by red spider, and none show the effects of it sooner. Fumigate at once when the pest appears.

A correspondent wishes to know the names of the best varieties of Pinks and Carnations for forcing. It may be useful to other readers to know that there are varieties specially adapted for this purpose. The ordinary florist types would be spoiled if subjected to a high temperature early in the year. Tree or perpetual-flowering Carnations will continue producing flowers all through the winter and spring months in a night temperature of 50° or 55°. Some of the best varieties are Guelder Rose, Rose Perfection, Defiance, Empress of Germany, Gloire de Lyon, King of the Belgians, Prince of Orange (Picotee), Proser-

pine, and White Swan. Clove Carnations require a little forcing to have the flowers in from May onwards. The best are Bride (Hodges), King of Yellows (Abercrombie), Purple Prince, and Sentinel (scarlet); add to these the new variety Mrs. Matthews, forcing Pinks Derby Day, Coccinea, Lady Blanche, Lord Lyons, and Rubens. All the above plants are most useful for the greenhouse in winter and early spring.

FLORIST FLOWERS.

We have now plenty of lateral growth on the Pinks, and shall insert a few more pipings to make up those that have failed. The pipings already rooted will be planted in fine soil out of doors, or perhaps in boxes, as we do not require a large quantity and the boxes are convenient. We have still some fine flowers on the Pink beds from late growths. We have very nearly finished layering the Carnations and Picotees; the plants having been grown under glass, they were placed out of doors for a few days before laying down the growths. An amateur called at Loxford the other day and said layering was a mystery to him. He was quite delighted to see how easy the operation was performed. We remove the surface soil of the pots and add some fresh light soil, into which the young rootlets enter freely.

Those who have not yet potted their Auriculas should lose no time in doing so. When at Slough the last week in July I found they were making preparation to report their whole collection. Ours were potted in May, but many small offsets which have grown too much for their pots will now be shifted into others of a larger size.—J. DOUGLAS.

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

MR. ADDISON, Ormiston, Edinburgh, writes to say that he can supply "J. B. J." with the Aquilegias required.

SEEDLING SWEET WILLIAMS (W. C.).—They are very pretty and varied in colour.

EARLY ONIONS (Amateur).—The earliest brown spring Onions which are sent to Covent Garden are grown from transplanted bulbs. Seed is sown very thickly in May in rather poor soil. The plants are not thinned, and they form small bulbs by the end of July. They are then pulled up and dried, and are planted in drills very early in the spring. The bulbs when planted are about the size of hazel nuts. Several acres of Onions are thus grown in the London market gardens, and the crop is a lucrative one.

EXHIBITING DWARF FERNS (G. S.).—We do not know what is meant by "three British dwarf Ferns, distinct varieties;" but if you have quoted from the schedule correctly, "small-growing varieties of Lastreas, Athyriums, and Polystichums" cannot be disqualified.

DICSONIA ANTARCTICA (C. R.).—It is an exotic Fern.

ARTIFICIAL FERTILISERS.—Will "J. B. K." oblige "PACET" by stating in what proportion the superphosphate, potash, and nitrate are to be mixed, and how applied in the autumn to dwarf Roses on the Manetti, and whether applicable at any other season of the year to those and other outdoor plants?

GRAPES DISEASED (A. C.).—They are severely affected with what gardeners call "the spot," and is caused by the roots being not sufficiently active to supply the demands for the upper growth. Removing the soil from above the roots, replacing it by some richer compost, and covering the surface at night and during heavy rain with mulch, and uncovering during sunshine, usually removes the malady. If the roots have descended into wet or ungenial subsoil they must be brought to the surface in the autumn.

DRIED HORSE DROPPINGS FOR MUSHROOM BED (St. Edmund).—The droppings would probably heat were you to sprinkle them lightly with water, better the drainings of a dunghill. If you could add some fresh droppings so much the better, mixing with the old after sprinkling the latter with water or liquid manure. In a week or so after making-up the bed you will be able to ascertain whether the materials are any good or not, by their heating or otherwise. All that is wanted is a gentle heat of about 75°, and if that be secured the material is little inferior if any to fresh; indeed, we have had some good beds formed of similar material.

CREOSOTE FOR NETS (G. O. S.).—"We obtain our creosote from Churchill and Williams, Tonbridge Wells, but it can be obtained in any large town, bearing in mind it must be the thin creosote. We merely draw the net through it, the excess being strained off by pressure. We also use the cloth of which the hop pockets are made, 5d. per square yard. This when creosoted lasts many years, and is very good for protecting wall-fruit trees. The protection by means of paper is an idea of Mr. Bréhauf. When used in the way I stated in the Journal it forms a very efficient and economical protection for various kinds of spring vegetables. The net should be so formed as to allow the meshes to lie parallel to one another when stretched out.—OBSERVER."

GATHERING EVERLASTING FLOWERS (Mrs. T.).—If you gather the flowers before they are fully expanded they will not break off in the manner of which you complain.

PRUNING TEA ROSES (A Constant Subscriber).—They should be pruned in spring when the buds are swelling, early in April being a good time.

LILIUM LANCIFOLIUM (Idem).—We have bulbs producing more than twelve flowers. We have grown them for several years, the newly-formed bulbs becoming larger annually. They ought not to be kept quite dry at any time; the soil should be perceptibly moist even during the winter.

CARNATIONS AND PICOTEEES FOR EXHIBITION (P. Tulse Hill).—You will find in another column a selection by Mr. Douglas of the best varieties in their respective classes

TROPEOLUM SPECIOSUM (M. P.).—It is a hardy and very beautiful climber, and produces a brilliant effect on walls in Scotland. It does not appear to be easy to establish in England, but Mr. G. F. Wilson has exhibited flowering sprays from his garden at Weybridge. A cool moist situation should be selected for the plant in England; in Scotland it appears to flourish in any aspect.

ABNORMAL GROWTH OF POTATO (E. C.).—It is unusual for tubers to form in the axils of the leaves, and generally results from some check having been received in the early stages of growth. We have seen similar instances of aerial tubers. Last year a Potato was exhibited at South Kensington which had been grafted on the Tomato, and tubers much larger than the one you have sent to us formed freely in the axils of the leaves.

MARÉCHAL NIÉL ROSE UNHEALTHY (L. M. N.).—The leaf sent suggests that it does not receive sufficient nourishment. Remove the surface soil and replace with manure, apply also liquid manure during dry weather.

SEEDLING PETUNIA (J. Hood).—The specimen sent is one of the finest of its colour we have seen, and is well worthy of being cultivated as a named variety. The fringe is not peculiar, as it is found in other varieties of continental origin.

WEED IN MEADOW (G. S. D.).—It is the Rest-harrow or Cammock (Ononis arvensis). Can any of our readers inform us how it can be cheaply exterminated?

INSECTS ON ROSES AND PELARGONIUMS (J. B. B.).—The foliage has been much infested with aphid and is now mildewed. Remove the worst leaves, and sponge and syringe the remainder with soft-soap water or a solution of Gishurst compound, made by dissolving 2 ozs. of either soft soap or Gishurst in a gallon of water. Remove the shanked Grapes as soon as you can perceive they are affected. There is no advantage in breaking off the shoots of your wall trees; cutting is quite as effectual and more neat.

CATERPILLAR ON AMERICAN WILLOW.—The insect sent has nothing to do with the Potato, nor is it ever known under the name of the "Potato dog" (a name unknown to collectors). It is the caterpillar of the common puss moth (Cecura vimula), and is not likely to be injurious to plants.—I. O. W.

NAMES OF PLANTS (St. Vincent).—Spiraea sorbifolia. (John Davies).—Hedge Mustard (Sisymbrium officinale). (J. R.).—Specimen insufficient, perhaps an Eucalyptus. (J. Shearer).—1, Cuckoo-flower (Cardamine pratensis); 2, Wood Crane's-bill (Geranium sylvaticum); 3, Red Rattle (Pedicularis palustris); 4, Cotton Grass (Eriophorum angustifolium). (E. Pickard).—Leycesteria formosa; specimen insufficient. (J. Dunlop).—The Marvel of Peru (Mircibilia Jalapa). (J. H.).—1, Gnathosia sp.; 2, Calaminta grandiflora; 3, Nepeta angustifolia; 4, Helichrysum arenarium. (J. A.).—Sisyrinchium striatum. (A. H. S.).—Stanhopea zebrina. (A Suffolk Subscriber).—Catalpa syriensis. (Devonian).—1, A variety of Polystichum aculeatum; 2, It is an Acrostichum, but the specimen is insufficient.

POULTRY, BEE, AND PIGEON CHRONICLE.

GREAT HORTON SHOW OF POULTRY, &c.

THE eighth annual Show was held at Great Horton on the 4th inst. This was by far the best ever held by the Society, the entries being good in every department, the poultry and Pigeons being unusually well represented. Turner's pens were used in the open air, and the weather was fine and hot.

Game headed the list, some of the best birds of the day being shown, but many otherwise good were very bad in moult. *Spanish, Cocksins*, and *Brahmas* were not numerous but uncommonly good, and the *Hamburghs* also a very choice lot. In *Bantams* the Variety class showed up in finest plumage. Most of the *Game*, though good, were quite out of feather. Of *Rabbits* with three classes there were some grand animals, notably in the Variety class, where several extra prizes were awarded. First a Dutch, second Silver-Gray, extra second an Angora, third Silver Fawn, and extra third Belgian Hare.

Pigeons a capital entry, and the classes generally good. Pouters were—first a Blue cock, second Red, and third a Blue. Carriers, first a Dun, an easy winner in a good class; second and third Blacks. In *Dragoons* the winners were good but the rest poor. English Owls were a really good lot and mostly Blues. Turbits, first and second Blue, and third Yellow. In *Short-faced Tumblers*, first and cup for the best in all classes a capital Almond hen, second Almond cock, and third Yellow Mottle. Antwerps produced a good entry, and there was, as may be thought, keen competition, the young class proving specially good. In the Variety class first was a White African Owl, second Magpie, and third Fairy Swallow.

POULTRY.—*GAME*.—*Brown Red*.—Cock.—1, W. & A. Fenwick. 2, W. Rudd. *Black Red*.—Cock.—1, W. Rudd. 2, J. C. Dixon. *White*.—J. Waddington. *Any other variety*.—Cock.—1, H. Walton. 2, W. Rudd. *Hen*.—1, R. Walker. 2, W. Rudd. *Black or Brown Red*.—Hen.—1, W. Scholefield. 2, A. S. Sugden. *Chickens*.—1, H. Walton. 2, E. Lund. *SPANISH*.—*Black*.—1, J. Thresh. 2, J. Powell. *COCHIN-CHINA*.—1, R. P. Percival. 2, C. Sedgwick. *BRAMA*.—*Pootra*.—1, H. Beldon. 2, J. Rawnsley. *White*.—W. Scholefield. *ANY OTHER VARIETY*.—*Game*.—Hamburgh and Game. *Chickens*.—1, J. Powell. 2, C. Sedgwick. *White*.—H. A. Barclay. R. P. Percival. *HAMBURGH*.—*Silver-spangled*.—1, H. Beldon. 2, Fawcett & Anderson. *Silver-pencilled*.—1, H. Beldon. 2, J. Rawnsley. *Golden-spangled*.—1, J. Rawnsley. 2, H. Beldon. *Golden-pencilled*.—1, H. Beldon. 2, J. Rawnsley. *Black*.—1, C. Sedgwick. 2, Hobson & Robinson. *Chickens*.—1, C. Sedgwick. 2, J. Sharp. *POLANDS*.—1 and *White*.—H. Beldon. 2, J. Rawnsley. *ANY OTHER VARIETY*.—1, G. Furness. 2, H. Beldon. *BANTAMS*.—*Game*.—Hamburgh and Game. *Chickens*.—Cock.—1, J. Blamires. 2, W. F. Entwistle. *Chickens*.—1, W. F. Entwistle. 2, E. Walton. *Any other variety*.—1, E. Walton. 2, J. F. Crowther. *DUCKS*.—*Aylesbury*.—1, J. Newton. 2, R. Craven. *Rouen*.—1, J. Newton. 2, H. Hanson. *Any other variety*.—1, H. Beldon. 2, J. R. Pollard.

PIGEONS.—*POUTERS*.—*Cock or Hen*.—1, J. E. Crofts. 2 and 3, E. Horner. *CARRIERS*.—*Cock or Hen*.—1, E. Yardley. 2, E. Horner. 3, Mrs. Belk. *White*.—J. E. Crofts. *J. Tomlinson*. *DRAGOONS*.—*Cock or Hen*.—1, E. Woods. 2, J. Booth. 3, E. Horner. *White*.—J. E. Crofts. *English*.—*Cock or Hen*.—1 and 2, Ward & Rhodes. 3, E. Woods. *White*.—J. Thresh (2). *TURBITS*.—*Cock or Hen*.—

1 and 3, R. Woods. 2, E. Horner. **TUMBLERS.**—*Short-faced.*—Cup, 1, and 2, H. Yardley. 3, E. Mawson. *Long-faced.*—1, J. Thresh. 2, A. Smith. 3, R. Woods. *vhc.* E. Horner. **BARBS.**—*Cock or Hen.*—1 and 2, Mrs. Belk. 3, H. Yardley. **ANY OTHER VARIETY.**—*Long-faced.*—Cock—1 and 3, S. Wade. 2, B. Rawnsley. *Hen.*—1, B. Rawnsley. 2, S. Wade. 3, J. Cockett. *Short-faced.*—Cock—1, W. F. Entwistle. 2, H. Yardley. 3, A. Brook. *Hen.*—1, W. F. Entwistle. 2, H. Yardley. 3, T. Bottomley. *Medium-faced.*—Cock—1, S. Wade. 2, W. F. Entwistle. 3, B. Rawnsley. *Hen.*—1 and 2, W. F. Entwistle. 3, S. Wade. **CHICKENS.**—1 and *vhc.* W. F. Entwistle. 2, S. Wade. 3, B. Rawnsley. **ANY OTHER VARIETY.**—*Cock or Hen.*—1 and *vhc.* Ward & Rhodes. 2, E. Horner. 3, J. E. Croft.

RABBITS.—*LOP-EARED.*—*Buck or Doe.*—1, H. Woods. 2, R. Murgatroyd. **HIMALAYAN.**—*Buck or Doe.*—1, J. Robertson. 2, J. Mills. *vhc.* H. Woods. **ANY OTHER VARIETY.**—1, E. Pepper. 2, J. S. Swithenbank. 3, Buckley. 3, E. Robinson. 3, J. Robertson. 3, S. Swithenbank. 3, Buckley.

JUDGES.—Mr. T. J. Charlton, Blenheim, Manningham, and Mr. E. Hutton, Pudsey.

GLAMORGANSHIRE POULTRY SHOW.

THIS Show was held at Aberdare on the 2nd inst. A good prize list with great provision in pens, marquees, and attendance only brought about one hundred entries, no doubt because the Show is little known and badly advertised. **Dorkings** were very good. First Grey, second White. *Brahmas* good, but *Game* out of feather, and *Spanish* very good and well shown. In cockerel and pullet first were grand Dark Grey Dorkings, second Brahmas, and third Buff Cochins, three pens equal to holding their own at any show. *Hamburgs* were very good but not numerous. *Polish.*—First Silver, second Gold, and both good. *French* were very good. In *Bantams* Blacks were first, Scotch Greys second, and Silver Sebrights third. *Ducks* and *Geese* were, as usual, very good here.

POULTRY.—**DORKINGS.**—*Grey or Coloured.*—1, Miss M. Leyshon. 2 and 3, H. Feast. **BRAMA** FOOTRA—1, E. Lawrence. 2, S. W. Thomas. 3, H. Feast. **GAME.**—1, E. Winwood. 2, R. Pearson. 3, The Powell Duffryn Coal Co. **SPANISH.**—1, J. Kitchen. 2, H. Feast. **COCHIN-CHINA.**—1 and 3, E. Clatworthy. 2, H. Perkins. **CHICKENS.**—1 and *vhc.* M. Leyshon. 2, E. Lloyd. 3, E. Clatworthy. **HAMBURGERS.**—*Gold-pencilled and Spangled.*—1, J. Carr. 2, J. Rosier. *vhc.* H. Feast. *Silver-pencilled and Spangled.*—1 and 2, H. Feast. **POLANDS.**—1 and 2, E. Feast. *vhc.* E. Lloyd. **BOUDANS.**—1 and 2, S. W. Thomas. **CREVES.**—1 and *vhc.* H. Feast. 3, E. Lloyd. **BANTAMS.**—1, T. E. Phelps. 2, S. Hosgood. 3 and *vhc.* Morris & Cameron. **ANY OTHER DISTINCT BREED.**—1 and 2, H. Feast. 3, O. Burford. **DUCKS.**—*Aylesbury.*—1, H. Feast. 2, E. Lloyd. *Rouen.*—1, Miss C. Leyshon. 2, J. Moody. *vhc.* H. Feast. **GEES.**—1, J. Thomas. 2, Miss Harrys. **TURKEYS.**—1, Miss Harrys. **SELLING CLASS.**—*Pouls.*—1 and 3, H. Feast. 2, D. Lewis. *Ducks.*—1, Miss C. Leyshon. 2, W. Wheeler. 3 and *vhc.* H. Feast.

JUDGE.—Mr. E. Hutton.

RYHOPE SHOW OF POULTRY, &c.

THIS Show took place on the 6th inst., and was a pretty good one as regards the quality of the exhibits. *Dorkings* did not muster well, but the *Cochins* were really grand, not alone in size but also in quality of plumage. In *Brahmas* first were Dark and second Light, but the rest were poor. *Spanish* a grand lot. *Polish* were moderate, but the *Game* good throughout. The single cocks were placed—first Brown Red, second Black Red, and third Piles, and Brown Reds won in pairs. There were some good chickens. *Hamburgs* were as good as any section of the Show, the winners such as will be difficult to beat. *Bantams*, always an important section here, were good, but not as numerous as we have seen them. In Reds were some good birds; the first Black and second Brown Red, and in the following class Duckwings were first and Piles second, the latter out of feather. *Ducks* a good section, but the birds mostly out of feather. Ornamental Ducks, first and second Pintails, and third Carolinas.

POULTRY.—**DORKINGS.**—1, J. White. **CHICKENS.**—2, T. & R. Miller. **COCHINS.**—*Buff and Cinnamon.*—1, 2, and 3, G. H. Procter. **CHICKENS.**—1, G. H. Procter. 2, W. Jaggs. *Any other variety.*—1, H. A. Clark. **BRAMA** FOOTRA—1, R. Shield. 2, J. Maughan. 3, J. N. Lawson. **CHICKENS.**—1, J. Gargett. 2, R. Sewell. **SPANISH.**—1, T. Newlands. 2, R. Shield. 3, G. F. Kellett. *vhc.* W. Jaggs. **CHICKENS.**—1, J. D. Booth. 2, R. Shield. **POLISH.**—1, R. Sewell. 2, H. A. Clark. 3, J. Gargett. **CHICKENS.**—1 and 2, G. Elliott. **MALAYS.**—1, J. Nelson. 2, G. Carter. 3, Holmes & Destner. **ANY VARIETY.**—Cock—1, J. A. Nelson. 2, G. Carter. 3, G. Alderson. **CHICKENS.**—1, W. Bearpark. 2, I. H. Todd. *Any other variety.*—1, Holmes & Destner. 2, W. Allan. 3, G. Carter. **HAMBURGERS.**—*Golden-spangled.*—1, R. Keenleyside. 2 and 3, Holmes & Destner. **CHICKENS.**—1, R. Keenleyside. *Silver-spangled.*—1, J. G. Walker. 2 and *vhc.* Holmes & Destner. 3, G. Alderson. **CHICKENS.**—1, W. Bearpark. **Golden-pencilled.**—1, T. & G. Kidson. 2 and 3, J. G. Walker. **CHICKENS.**—1 and 2, T. & G. Kidson. *Silver-pencilled.*—1, D. Clow. **CHICKENS.**—2, D. Clow. **ANY OTHER VARIETY.**—1, F. H. Steriocker. 2, T. M. Derry. 3, J. D. Booth. **CHICKENS.**—1, T. W. Richardson. 2, Harrison & Christison. **GAME BANTAMS.**—*Black-breasted and other Reds.*—1, J. A. Nelson. 2, T. & R. Miller. 3, J. Miller. **CHICKENS.**—1, J. A. Nelson. *Any variety except Game.*—1, J. Sanderson. 2, J. Patison. 3, G. Alderson. **CHICKENS.**—1 and 2, G. Elliott. 3, J. Peacock. **DUCKS.**—*Aylesbury.*—1, F. E. Gibson. 2, J. Johnson. 3, Mrs. Walker. *Rouen.*—1, J. A. Nelson. 2 and 3, J. Dixon. *Aylesbury or Rouen.*—*Ducklings.*—1, Mrs. Walker. 2, G. Searth. *Any other variety.*—1 and *vhc.* Rev. J. G. Milner. 2 and 3, J. Johnson. **SELLING CLASS.**—1, J. N. Lawson. 2, J. Young. 3, D. Clow. *vhc.* J. Patison. **BARNDOOR FOWLS.**—1, J. F. Hedley. 2, J. Bowman. **ANY DISTINCT VARIETY.**—1, G. Richey. 2, D. Roberts.

RABBITS.—*LOP-EARED.*—1 and 2, J. Handell. *Any other variety.*—1, E. Pepper. 2, J. W. & O. Moses. 3, S. Potts. *vhc.* W. Harcastle.

JUDGE.—Mr. E. Hutton, Pudsey.

COMMON RABBITS.

WHERE mere amusement, the table, or profit is the object sought common Rabbits are most satisfactory. They will bear great exposure to cold, and thrive well on almost any kind of

food. Too much moist or succulent food, as cabbage leaves or vegetables generally, is not proper for them any more than for the fancy varieties, for it is likely to disorder the bowels and render them too relaxed, particularly if young; bran, oatmeal, oats, or split peas should be mixed with them, and a little new or fresh hay given occasionally. The fancy varieties, on the contrary, must be kept warmer; the atmosphere of the place in which they are kept should never be less than temperate or they will degenerate. Wet or damp is particularly injurious to them, and they must be carefully protected from all chills and draughts.

Common Rabbits exhibit a variety of colours. Of these the brown, the grey, the black, and the black-and-white are in some respects to be preferred. The white with pink or red eyes are rarely good mothers, and are certainly the most tender in constitution.

In selecting Rabbits for breeding be careful to choose those of the largest and strongest build and from the most healthy stock. The doe should not be less than seven months old and the buck eight or nine months. A grey or brown doe and a black-and-white buck, or the buck grey or brown and the doe black-and-white, generally produce the finest progeny; at any rate do not pair a buck and doe of a similar colour or from the same or similar stock. In-and-in-breeding, as it is termed—that is, from the same stock or parentage, never succeeds, and where it is repeated every fresh brood becomes weaker and weaker. The greater strangers the buck and doe are to each other the better and stronger will their progeny be. A few days before a doe is ready to kindle you may see her nibbling the hay or straw and pulling the down from her breast to make a soft warm bed for her expected young. As soon as you observe this, or rather a week before you have reason to look for the young brood, take care to supply her with a little soft fresh hay or cut straw to make her bed with; brushed straw well rubbed together with the hands until no longer brittle is very good for this purpose.

In a day or two after the doe has kindled take the opportunity when she is feeding to look at her brood and examine if they all appear fairly formed and healthy. Do this quickly and carefully, as some does are jealous of their young being interfered with, and will forsake them if she observes them to have been touched or moved. If she keeps so much in her sleeping place as to give you no opportunity to inspect them, endeavour to entice her out by giving her some fresh favourite food, as a cabbage leaf, the top of carrots, or the like, or take her out of the hutch. If you find too many in the nest (more than four if good Rabbits or six of the common kind), and one or more of that number appear weak or puny, take it or them away, and the remainder will be all the better for it, as too numerous a litter will weaken the mother and prove too many for her to support. If you happen to have another doe with a smaller number of young about the same time, you may put the little thing among her brood, and she is very likely to suckle and bring it up.

When the doe has kindled give her a small slice of bread soaked in warm milk, but with no more milk than the bread absorbs, once or twice a-day. When suckling her young the doe should be well supplied with succulent nutritious food—cabbage leaves, nuts, thistles, lettuce, green corn, dandelions, a little parsley, or the tops of carrots are very good at this time. A little barley meal mixed up with warm milk or water, fresh brewers' grains, or bruised malt made into a warm mash should be given occasionally, but not too much at a time, as it sours and is then injurious. Morning and early in the evening are the best times to feed her, and then take care that she has plenty, for a doe while suckling requires at least twice as much food as when she has but herself to feed. So soon as her young begin to feed be sure to supply them with as much as they can eat at least three times a-day.

When about ten or twelve weeks old the young if strong and healthy will not require to be suckled any longer by the doe, and should be removed to another hutch and kept by themselves. By the time they reach the age of four or five months they must be separated, particularly the bucks from the does, for they are quarrelsome little animals and rarely agree as they approach maturity. Never allow the young to be put in a hutch with a buck, as he will worry them terribly and even kill them. Be sure also to keep them free from rats and other vermin, or the little helpless creatures will soon become victims.

In not less than a week or two after the young are removed from the doe she may be allowed to take the buck again, unless it be too near the end of the old or early in the new year, when the cold is too severe for the young brood, in which case breeding should be postponed until milder weather sets in. The fancy varieties should not be permitted to breed more than three times in the year, or it will exhaust strength, so that the young will be weak and unlikely to live. After the third year has passed the best thing you can do with either buck or doe is to feed and fatten it for the table. Common Rabbits may be a year older if strong and healthy.

If a buck is kept a single hutch—that is, one with but one compartment, with wired door and feeding trough, will do well to keep him in. A similar hutch if of sufficient size, say not less than 2 feet in length, will do to put the young progeny in when taken from the doe; but they must not remain together after four or five months old, indeed as soon as you observe them beginning to fight they must be separated and kept apart.

Rabbits naturally feed on vegetables, and readily eat most of the edible productions of the field or garden. Meadow grass cut green, milk thistles, carrot tops, cabbage leaves, clover, tares, hare parsley, stalks and leaves of chicory, leaves of white beet, parsnips, new hay, and Jerusalem artichokes are all good for them, and may be given occasionally to vary their food. Too much green vegetable food must not be given them, as it is too apt to relax their bowels, but should be served out to them with or after their dry corn food, and at all times must be a day or two old.—(*The Pet Stock Bulletin*.)

CANARY BREEDING.

THE breeding season is fast drawing to a close, and birds, both old and young, will soon be in heavy moult; in fact the young from early nests are already pushing forth their new and more showy plumage. There is not much advantage gained in prolonging the breeding of Canaries beyond the end of July, owing to the old birds becoming sick and weakly and the young from such not thriving so well as those hatched in the months of April, May, and June. Already many breeders have cleared away all nesting materials, pulled down the breeding partitions, and cleansed and appropriated the same for moulting or preparing the most promising young for the coming season's exhibitions. Some breeders have sets of partitions or cages specially set apart for moulting their birds, keeping one or two birds in each compartment; and others will moult several broods together in some corner of a room or snug recluse, the birds being kept in a state of semi-darkness to prevent them from pulling each other's feathers during the moult. I consider it quite as essential to cleanse the breeding places and cages at the end of the breeding season as it is when putting-up the birds to breed, for if there should be any vermin lurking about it is not possible that the birds can remain undisturbed during roosting. And this is a matter much to be regarded whilst birds are moulting, for it prevents or at least checks the birds (which become uneasy and fretful through the vermin) from pecking their quill feathers at a time when they are charged with blood, the starting of which hinders the free growth of the feathers, and not only retards the maturity and unfolding of the same but weakens the birds.

Respecting the remarks upon Canaries and their eggs alluded to in page 339, No. 840, Mr. Hervieux further states:—

"Thunder is another accident, for when there happens any extraordinary thunder on the seventh or eighth day after the hen has been sitting the little ones which are scarce half-formed sometimes perish, and the eggs that were thought to be good because they were dark and somewhat heavy are quite spoiled by the thunder. When the thunder happens in the daytime and the hen is gone off the eggs to ease herself or feed, there is much cause to fear the eggs will be spoiled, and therefore you must then endeavour to make the hen return to her nest, for when on them she commonly saves them from that accident, and therefore the thunder is not to be so much dreaded at night, because the hen is then on her eggs.

"Some put a bit of iron into the nest to hinder the effect of the thunder, but I will not prescribe that as a sovereign remedy. When the thunder happens on the eleventh or twelfth day the hen has been sitting it is not so much to be feared, because the little ones are stronger, though still in the shell, and very often it only makes them hatch twenty-four hours before their usual time.

"Thunder sometimes is so violent that it destroys both old and young, and if they are ever so little out of order otherwise, that thunder makes an end of them, and they are found dead and stiff in their huts, without any other cause.

"The eggs are generally thirteen times twenty-four hours under the hen—for instance, you place five or six eggs under your hen on a Saturday at seven in the morning, and you will have young hatched the second Friday following in the morning. Some, but very rarely, hatch one day before the usual time: either the thunder or the great heats, as in July and August, may cause them to advance; others, on the contrary, come twenty-four hours later or thereabouts, and that is occasioned by cold, as sometimes happens at the first sitting in April; or it may proceed from having handled the eggs too often, as has been said; or lastly, the hens being sickly or weakly may hatch a day or more later than usual.

"The fear of breaking the eggs when handled makes us take them up trembling, and even so we often break them, either pressing them too hard between the fingers, or else letting them fall for want of holding them fast. To obviate this accident, which daily happens to the most experienced persons, they are not to be handled unless in case of necessity, and when you

cannot avoid it. You must take them up unconcerned and without dread, for the fear of breaking them often proves a dangerous precaution. If, therefore, you boldly take up your eggs in your fingers by the ends, but never by the middle, as I observed before, you will be sure not to break them; and if still you be apprehensive notwithstanding all these precautions, you may make use of a small thin spoon to take them up with, and that way you will still be safer."

Even with the foregoing precautions of Mr. Hervieux (which are worth observing), still accidents may and will otherwise occur to eggs through overgrown nails puncturing the shells, or through the claws being clogged with dirt gathered from the cage bottom, which will frequently cause the egg-shell to become indented. The former obstacle may be obviated by carefully cutting the hens' claws (the nails) before they commence sitting; and the latter may be prevented with the cage bottom being kept scrupulously clean and well supplied with grit sand and an occasional bath. But the trimming of the nails will only be necessary when the hens are above one year old.—GEORGE J. BARNESBY.

LARGE HIVES.

DURING last winter I bought "A Handy Book on Bees," by Mr. Pettigrew, and having read it I determined to try his system of large hives, of course for honey or profit, but more especially to break down the prejudices of the bee-keepers in this district (Northumberland), where small hives only are used. I ordered some hives from Manchester 18 inches in diameter and 12 inches deep inside measure. I bought three stocks in small hives from an old man and set up my apiary, determined to succeed; but when I had the first swarm on June 14th and put it into the large hive I was laughed at by an old bee-keeper who assisted me to hive the swarm, and who assured me it was no use, the bees would never fill it, for he had had fifty years' experience, and 4 stones was the greatest weight of honey he ever had.

On the 22nd I had another swarm, and on the 27th I had the third, both of which I put into large hives. I also had two second swarms, which I put into small hives. The third hive did not swarm a second time, for the floorboard had a feeding trough in it, and the bees filled it with comb, and I simply lifted the hive off the board, and with it came the comb out of the trough. I had by me ready another board with a large hole in it, under which I placed an 18-inch eke. I lowered the comb through the board into the eke, and the latter is now nearly full of comb. But as I wish more particularly to speak of the large hives I will not at present say more on the second swarms or stocks, but if you think it worth while to insert this I will write again after the moor season is over.

To return to the hive of June 14th. It was full of comb and honey in five weeks, but the board and hive only weighed 34 lbs. That of the 22nd is also quite full; that of the 27th is not yet full, but quite three-fourths, and it is a 20-inch hive, which was sent by mistake. These facts in the face of the worst season for many years proves that Mr. Pettigrew's system is very good, and those who have not read his little book should do so at once.

I will send my bees to the heather on the 1st of August, and if it is a good season hope to get 100 lbs. of honey from each hive. It is a sight to see the bees at work. The doors are 3½ inches wide, and the stream in fine weather is nearly constant, and often I think the bees are swarming. I should like to know the best plan of getting bees out of supers, and I would further inquire why it is that there are often, say, from ten to twenty bees on the ground, evidently dying, in front of the hives. Are they robbers "come to grief," or workers having lived their natural term, "shuffling off this mortal coil?"—HARDY OF THE HILLS, Northumberland.

DRIVING BEES.

I HAVE read with much pleasure the two articles from my brother amateurs on bee-management in your Journal of June 21st, page 474, and July 5th, page 24; and although I have not been quite so far in my experiments as Mr. Kendal, yet my little experience may be helpful to some young beginners.

First I would say it is from your Journal that I have gained most of my experience or information. Until I read your pages, like many others I thought the sulphur pit must be the doom of our little friends, and I hated such a barbarous practice and did not care to keep them; but when I saw they could be managed in a more humane way I resolved to make a beginning.

Last September I bought one swarm in a very small skep, for which I gave 15s. I fed them a little in the autumn, and they stood the winter very well. I commenced feeding them again about the middle of April, and continued feeding until swarming time. The quantity of syrup I gave was from 6 to 8 lbs. I intended swarming them artificially, but they were forwarder than I expected, and on the 30th of May a fine swarm issued naturally, which I hived successfully in a large 18-by-12-inch

Pettigrew hive which I made myself, and they have now almost filled it with comb.

On the 22nd of June I resolved to turn them out, as I did not get a second swarm, but they hung round the flight-board for several days, and I thought they were doing no good. But here arose a difficulty; the hive they were in was so much smaller than the one I wanted to transfer them to. The one they were in was only about 14 by 12 inches, and the one I wanted to put them in was a large Pettigrew hive 18 by 12 inches. At last I thought of a plan. I had one of Mr. Neighbour's super covers, which was just about the size of my stock hive. I then turned the hive bottom upwards, put on the super cover; then I had at hand a round roller towel, which I bound tightly round the junction, and it answered the purpose well. I then commenced knocking the hive with the palms of both hands, and I kept on for about twenty minutes. I then unpinned the towel and lifted up the super cover, when I found all but a dozen or two of the bees had ascended from the combs into the super cover. I then turned up my large hive and poured the bees in like shaking in a natural swarm. I then turned the hive up and placed it on the stand where the old hive stood before, and they took to the new hive well, and the next day they started on at work, and now they have more than half filled the hive with comb. Afterwards I took out the combs from the old hive, broke them up and ran out the honey into a pan, and when I came to weigh it I found I had about 11 lbs., some of which I sold for 1s. and some for 10d. per pound. So I thought, taking all things into consideration, I was very successful; then, if all is well, my hive will be well filled with good clean combs for the winter, and also the bees will be in a good roomy hive, which I think must be much the best.

I may remark that I tried the artificial swarming from one of Neighbour's hives, and I managed to take a very good swarm of bees; but I suppose I was not successful in getting the queen, for they all soon went back, and I did not take them again, and in a few days they came off naturally.

I am now making another 18-by-12-inch Pettigrew hive, which I want to fill with condemned bees if I can get any, and feed them up with sugar syrup. But I wish many others would give us the result of their experience in the autumn feeding as to the feeding apparatus to use and the best way to feed, whether on the top or at the bottom of the hives. No doubt a few hints on these points would be useful to many others as well as myself. I fed at the top of the hive and used a cistern holding three pints of syrup, with a trough 6 inches long, and placed in a box with a hole in the bottom, and stood it on the hive with this hole just opposite the hole in the top of the hive, so that the bees could come up into the box and take the syrup down, and no foreign bees could get near them as the cistern was shut in the box, but they did not take it very fast that way.—J. F.

REMOVING BEES TO THE MOORS.

As it is now time to remove bees to the moors to catch the heather bursting into blossom, it may be well to remind your readers that before removal the hives should be well ventilated and their combs well supported. The closing of the doors of hives prevents natural ventilation, and the disturbance of removal causes commotion, and thereby greater heat inside, hence the cases of suffocation and breakdowns we so often hear about. Suffocations and breakdowns are avoidable. Hives full of bees need much fresh air while on a journey from one place to another. By placing fly-proof wire over the doors and crown holes of hives we let the bees have a current of air through them that prevents overheating and suffocation. Cross sticks to which the combs are attached keep all in their places steady and secure, and thus prevent breakdowns. All hives should be nailed to their boards or well tied down, and sent off in their natural position. To turn hives upside down and send them off bottom upwards is a very foolish and dangerous process, for in this position the dip of the cells is reversed, causing the honey to run out of them more readily. Hives without cross sticks should be turned up two or three days before removal, and have two or three half corks placed between every two combs with a view to keep all steady and firm. If the pieces of cork are properly placed or wedged between the combs the bees fasten the combs to them in less than twenty-four hours, and when thus fastened they are the best possible substitute for cross sticks.

On Saturday last, August 4th, three Manchester gentlemen took their hives to the Glossop moors, and saw their bees at work on the early blossoms of heather as soon as they were let out.—A. PETTIGREW.

OUR LETTER BOX.

BEES.—A correspondent asks if Mr. W. H. Atwood will oblige by stating in what neighbourhood it is possible to obtain bees at 1s. per hive, as mentioned in his letter on page 86, and whether they could be easily transmitted into Worcestershire.

SHIFTING BEES (*Colin Sinclair*).—You can easily drive your bees if you use a similar hive, into which they will better move than into a square box.

As soon as they have gone up and are quiet you can dash them out upon the ground by a sudden blow on the hive top, and if you set the square box near them with one side a little raised they will quickly enter into it. You will have to feed largely and continuously, and it would be better to wait till late in August, when there will probably be but little brood.

HIVE SWARMING WITHOUT DRONES (A.).—It is asked whether "a hive full of combs, but in which the cells are exclusively those of workers and none of drones, can or will send out a swarm." We have no experience to guide us in a case like this, but we should expect to find small drones bred in worker cells, as sometimes happens, in sufficient numbers for the wants of the swarms which might issue. Mr. Ruddle does not seem to have made allowance for the fact that brood does not always develop at the same rate. He is right as to the rule, but in this, as in other cases, there is no rule without an exception. Our correspondent asks why it should have given pleasure to W. H. Atwood to find there were no young bees in his hive which had been driven or had swarmed.

CANARY UNHEALTHY (W.).—It is a natural consequence for birds to fall into moult at about this period of the year, and such no doubt is the case with your birds. Still from the description given your sufferer is affected to a greater extent than birds generally are in the moulting sickness, and may have taken cold. If it is no better give it a warm bath by immersing its feet and stomach in water (blood heat), and afterwards absorbing with a soft cloth, such as a pocket handkerchief, all moisture from the feathers, and gently drying the bird before the fire. In addition to the ordinary food add daily a little bread and milk. In the daytime keep the cage partly covered, and wholly so at night, and out of all draughts. In about a week after the birds have had the bread-and-milk food let them have a little plain biscuit slightly soaked with a few drops of sherry. Discontinue the sugar and replace it with a little piece of salt, and keep a rusty nail in the water.

FOX TERRIER (W. L.).—We know of no special management. Buy "The Dog," written by "INSTONE," and published by Messrs. Cassell.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.					Rain.
1877. Aug.	Baromet. at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp of Soil at foot.	Shade Tem- perature.		Radiation Temperature.				
		Dry.	Wet.			Max.	Min.	In sun.	On grass.			
We. 1	Inches	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.		
Th. 2	29.863	64.0	57.0	N.	67.2	70.7	57.3	126.3	57.4	—		
Fri. 3	29.951	60.0	52.9	N.W.	65.4	67.9	49.2	118.2	47.1	0.012		
Sat. 4	29.927	61.1	52.2	N.W.	68.2	68.7	46.4	122.0	44.1	0.030		
Sun. 5	30.055	60.6	53.9	N.W.	69.0	73.8	51.6	123.3	50.1	—		
Mo. 6	30.682	67.3	59.6	W.	64.0	73.3	53.8	126.7	50.3	—		
Tu. 7	29.983	72.3	61.0	S.	64.9	80.0	57.0	124.0	57.3	0.190		
	29.658	69.5	68.6	S.	65.5	71.7	61.0	106.3	57.4	0.193		
Means	29.945	65.0	57.2		64.7	78.0	53.8	120.8	51.0	0.425		

REMARKS.

- 1st.—A very fine pleasant day, much cooler than yesterday, rather cloudy towards the evening.
- 2nd.—Fine morning, but rather cloudy and stormlike before 11 A.M.; a very pleasant day though showery; one sharp shower for a short time about 4 P.M., afterwards fine and a starlit night.
- 3rd.—Fair but rather cold and dull; rain at 6 P.M., and again in the evening.
- 4th.—Dull in early morning, very fine by noon; fair all day, but at times heavy and stormlike.
- 5th.—Very fine all day; much warmer and more cloudy toward night.
- 6th.—Fine day, but close and stormlike towards evening; rain after 9 P.M., and during the night.
- 7th.—Fine and pleasant till noon, then showery till nearly 9 P.M., after that time starlight.

Mean temperatures during the week very similar to those of the one preceding, but more equable.—G. J. SYMONS.

COVENT GARDEN MARKET.—August 8.

THE bulk of the soft fruit is now to hand, and a good supply of Apples is reaching us. There has been scarcely any alteration in prices since our last report, with the exception of hothouse fruits, all kinds of which are experiencing a considerable fall owing to the finish of the London season; all classes of vegetables have likewise receded in value.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	½	sieve	3	0 to 4	Melons.....	each	3	0 to 8	0
Apricots.....	doz.	1	6	3	Nectarines.....	doz.	4	0	18
Cherries.....	lb.	0	4	1	Oranges.....	½	10	10	16
Currants.....	½	sieve	3	0	4	Peaches.....	doz.	3	0
Black.....	½	sieve	4	0	5	Pine Apples.....	lb.	2	0
Eigs.....	doz.	3	0	9	Raspberries.....	lb.	0	6	1
Gooseberries.....	½	bushel	3	6	4	Strawberries.....	lb.	0	6
Grapes, hothouse..	lb.	1	0	8	0	Walnuts.....	bushel	5	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....	dozen	3	0	0	Mushrooms....	pottle	1	2	0
Asparagus.....	½	100	0	0	Mustard & Cress	pinnet	1	2	0
Beans, Kidney..	bushel	4	0	5	Onions.....	bushel	0	0	0
Beet, Red.....	dozen	1	6	3	pickling.....	quart	0	4	0
Broccoli.....	bunch	0	9	1	Parasley....	doz. bunches	2	0	0
Brussels Sprouts	½	sieve	0	0	0	Parsnips.....	dozen	0	0
Cabbage.....	dozen	1	0	2	Peas.....	quart	0	6	1
Carrots.....	bunch	0	6	0	0	Peas.....	bushel	5	0
Capiciums.....	½	100	1	6	0	Kidney.....	bushel	2	6
Cardiflowers.....	dozen	2	0	4	0	Radishes..	doz. bunches	1	0
Celery.....	bunch	1	6	2	0	Rhubarb.....	bunch	0	6
Coleworts doz.	bunches	2	0	4	0	Salsafy.....	bunch	0	9
Cucumbers.....	each	0	8	0	9	Scorzoneria ..	bunch	1	0
Endive.....	dozen	1	0	2	0	Seakale.....	basket	0	0
Fennel.....	bunch	0	0	0	0	Shallots.....	lb.	0	8
Garlic.....	bunch	0	2	0	0	Spinach.....	bushel	2	6
Lettuce.....	dozen	1	0	2	0	Turnips.....	bunch	0	5
Leeks.....	bunch	0	4	0	0	Veg. Marrows..	each	0	2

WEEKLY CALENDAR.

Day of Month.	Day of Week.	AUGUST 16—22, 1877.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.							
16	TH	Shrewsbury Show closes.	73.0	51.5	62.2	4 49	7 19	2 47	9 51	7	4 2	228
17	F		72.7	50.1	61.4	4 51	7 17	3 58	10 32	8	3 39	229
18	S	12 SUNDAY AFTER TRINITY.	73.2	50.7	62.0	4 52	7 15	4 56	11 25	9	3 36	230
19	SUN		73.1	49.2	61.2	4 54	7 18	5 39	morn.	10	3 22	231
20	M		72.8	50.6	61.7	4 55	7 11	6 10	0 30	11	3 5	232
21	Tu	Royal Horticultural Society—Fruit and Floral Com- Chepstow Show. [mittees at 11 A.M.]	72.6	49.7	61.2	4 57	7 9	6 32	1 41	12	2 54	233
22	W		71.6	49.7	55.6	4 59	7 7	6 48	2 55	13	2 39	234

From observations taken near London during forty-three years, the average day temperature of the week is 72.8°; and its night temperature 50.2°.

INARCHING VINES.



THE present time is the best of all the year for inarching Vines. If the work is done now, when much of the wood is only half ripe, the canes unite quickly and form a lasting connection before pruning time. Perhaps, before going any further, it will be as well for me to explain for the benefit of your readers who are not familiar with the term "inarching," that it is simply the easiest of all ways of grafting, and there are none more sure of success. In beginning operations, supposing a white and black Grape to be growing side by side, the one may be inarched on the other. We intend doing this next year, where there is a Muscat Trovén and Black Hamburg growing together. There is not heat enough in the house to grow the first properly. When the Vines begin growing next year a shoot will be allowed to grow from the lowermost part of the Hamburg. This will be brought alongside the Muscat, and when ready the Hamburg wood will be joined to the Muscat, and the latter will be cut away altogether from where they are connected.

Inarching new sorts on old and inferior varieties is a very quick way of testing new Grapes. By inarching a small cane of any new sort on a good root this season it would make sufficient growth to bear fruit next year, but it would hardly do this perfectly if planted out.

In thinking of inarching any Vine, no matter what it is, the first thing to be considered is the securing of a proper stock. Some varieties of Grapes do very much better on another's roots than on their own, provided the stock is well selected. That is a point that must be considered to avoid failure. There are only two stocks which I dare recommend for every Grape; they are Black Hamburg and Muscat of Alexandria. Grapes that will fail on both of these stocks will not flourish anywhere. Other stocks might do well for a time, or perhaps altogether, but it is a chance which I would not risk with any valuable sort; but where neither of these stocks are growing others may be tried. Always choose the most robust grower. Never try one with tender roots like the Muscat Hamburg. After deciding on a stock, select the young Vine that has to be added to it. If it has to be sent for from a nursery, state what it is wanted for, and procure a cane becoming brown half way to the point.

In inarching one Vine on another the head of the stock is afterwards entirely cut away; therefore the nearer the root the two are united the better. Some Vines catch the wires close to the surface of the soil, others go up 2 or 3 feet to the first wire, and, as a rule, I have found this part the most convenient point to inarch at.

The operation of inarching is very easily performed, and no one need fail at it. With a very sharp knife cut a clean slice off the part of the wood where it is desired to make the connection. This slice should be 2 inches, or more in length and should penetrate the wood about

one-eighth. Then cut a piece off the one that has to be put on exactly the same size as the one just finished, so as when they are placed face to face the edges and other parts may meet. The best part to unite a young Vine is about a foot or so from the root. Nearly all young Vines which are inarched are in pots. When they are united near the ground the pot may rest on the ground; but when this cannot be done, the pot must be raised on a stool in a convenient position. Lay the cuts together, and about 1 inch from the end each way tie a round or two of matting. This assists greatly in keeping the canes firm and steady. When the cut parts are pressed against each other bind them closely round with soft matting and tie it firmly. This completes the inarching. The two will be united in a month, when the wood will begin swelling, and the matting must be cut, or the wood may suffer by the ligatures being too tight. Leave the top and bottom tie, however, in case anything might come against the united parts and separate them. It is well to leave these ties on until pruning time.

Water the roots in the pot regularly throughout the season. At pruning time cut the young Vine away close to the tie next the root, and do the same with the old rod above the tie. This will leave the new rod free to take the place of the one just cut out; and if all goes well it will bear fruit freely the following season.—A KITCHEN GARDENER.

AUTUMN ROSES.

"MORE about Roses!" I can well imagine some reader may exclaim on seeing the above heading. "More about Roses! Surely we have had a surfeit of Roses. Articles on exhibition Roses, on garden Roses, on old Roses, on new Roses; letters on climbing Roses, on Roses suited for towns, and last week on neglected Roses. What more can be said? Happy shall I be when I can parody the grace of the guest who was fed for one whole day on nothing but rabbits—

"Roses old, and Roses bold,
Roses tender, Roses tough,
I thank the Lord I've had enough."

No, my dear but testy reader, you may not sing your grace at present; we have no intention of letting Roses drop out of the columns of the Rose Journal for some little time, and there are still many subjects connected with the Rose left to us. What would you say, my friend, to an article on Roses suitable for churchyards? "Ah, good! (you chuckle); the best place for them. Bury them, sir, bury them, and along with them inter the Wyld Savage; then we shall have peace for a time, and can look to our Dahlias, and write about our Phloxes and Gladioli, and other seasonable flowers. Bury them." Meanwhile let me say a few words on autumn Roses.

What do I mean by autumn Roses? Well, Roses which do as well, if not better, in the autumn as in summer. By autumn I mean August and September—the present time, in fact. There are some Roses which bloom much later than the generality of Hybrid Perpetuals, whilst others bloom much better in the autumn

than in the height of summer. I do not know the reason; it must be something in the nature of the variety unknown to everybody but themselves. At all events, be the reason what it may, it is very rare to see good blooms of some varieties in exhibition stands. Some readers of these notes may wish for the names of a few Roses which are thus late in blooming, or which, according to my judgment, bloom better in the autumn. They may wish to prolong their blooming season, so as to have Roses of some kind or other from May till December; and they can do this if they wish by planting good free climbing sorts against a south wall for early spring blooms, and by filling the interval between the first and second blooms by planting Roses such as I am about to name. All of these are the finest exhibition sorts, for I grow none other.

First I would name that magnificent dark Rose *Pierre Notting*. How splendid the blooms are in a dry autumn! while in summer one rarely sees a good bloom. This Rose ought to be grown in partial shade. The place above all others for it is in a south border which has some huge evergreens or thick trees at the east end, so that the sun is not on the Roses till late in the day. I wish I could show the blooms which are on my trees to-day (August 5th).

Next to this Rose I should name *Duc de Rohan*. This fine old Rose never, to the best of my experience, comes to the front in June. It is a most distinct variety, being wonderfully built up, and of a bright crimson colour—altogether what one may call a superb Rose.

Then I would name *Emilie Hausburg*; I know of no better formed Rose than this. The colour exactly resembles that great delicacy strawberry ice, and the form is in my eyes perfection. Intensely double and globular, each petal encircles the other; you sometimes see an eye, but rarely in the autumn. In the summer this Rose does not bloom well, but now we have no better variety among the lights. *Abel Grand*, however, runs her very close. In the autumn I think this fine Rose is even grander than in the summer; and the same may be said of *La France*, the sweetest of Roses.

And now I come to a Rose concerning which I fancy there may be a great diversity of opinion, but I only speak from my own experience. With me this Rose rarely (and never this season), gives a good bloom in June and July. I allude to *Madame Victor Verdier*. As I have more than once said in the *Journal*, my Roses are grown in all aspects and in various parts of a somewhat extensive place. Wherever *Madame Victor Verdier* is, she is blooming freely and splendidly now. She is a magnificent Rose, and one I doubt not which will take a very high position in the Rose lists.

Still keeping to Hybrid Perpetuals, I should next name *Maréchal Vaillant* as being a grand autumn Rose. This old variety has been a little elbowed out of his place by some novelties, but in the autumn the old *Maréchal* is equal to the best of them. After the soldier I should place that somewhat capricious lady *Mlle. Annie Wood*. How rarely in the summer do we see her unfold her charms without having an eye too many; never, however, a black one, suggestive of a "fighting character," but at times a little green, as if she was jealous of the beauty of her sisters. But in the autumn she shuts her eye very close and blooms in the most bewitching manner. She always has intense colour, and now she has grand form. *Duchesse de Caylus*, again, is always better in the autumn, and *Horace Vernet* too.

And now I come to a Rose which I do not hesitate to class as an autumn Rose; I mean *Charles Lefebvre*. Over and over again have I seen this grand Rose far more magnificent in the autumn than I have ever seen it in the summer. It attains to a deeper colour, and is often more globular than earlier in the season. *Sénateur Vaisse* is another old variety which is grand in the autumn, as also is *Alfred Colomb*. There is, too, a variety not very well known but deserving of extensive cultivation, which is fine at the present time. I refer to a Rose called *Lena Turner*. This is a crimson Rose of lovely form, a little cupped, but each petal regularly placed behind the other, somewhat after the form of *Horace Vernet*.

There is one other Rose, not a Hybrid Perpetual but a Bourbon, which is never good except in the autumn, but is often grand then. *Souvenir de la Malmaison* is discarded by a great many exhibitors, but it is quite worthy of a place in any garden for its autumn blooms.

All the Teas are good autumn bloomers, and to mention any names would be to take a list and write them down one after the other. But one or two shy gems must be named which rarely open early in the season—viz., *Madame Jules Mar-*

gottin and *Comtesse de Nadaillac*. Of the Roses I have named there are beautiful examples blooming in my garden, and I doubt if during the summer I have ever had more lovely flowers than on this the 5th of August. There are not, of course, many, but what there are are good.

Another recommendation too have these autumn Roses, and that one which is not lightly to be estimated—their great fragrance. It is a perfect treat on a still August day when the winds of the capricious summer have at last sunk to rest, when there has been no rain for a week or so, when all nature is quiet and the soft balmy air does not stir a leaf in your rosery, to lift up a bloom of *Madame Victor Verdier* or *La France* and to inhale its perfume.

Then, again, autumn blooms are free from one great defect which their summer brothers and sisters have—they are rarely dirty. How often do we find grand blooms in summer bearing traces of the hard weather they have had to face—a burnt petal here, a damaged leaf there. How many a lovely Rose might plaintively sing—

"The Spring, she is a young maid
Who does not know her mind,
The Summer is a tyrant
Of most unconscious kind."

But in autumn the spring frosts and the cold summer nights are over, and if ever we have settled weather it is now; so the Roses can unfold their blooms at their leisure unprovoked by their foes. The grubs have become—something or other (I am no naturalist), and the caterpillars have blossomed into butterflies. The very aphides seem satiated with their summer feast, or are suffering remorse, or, perhaps (let us hope so), hot coppers from overeating, and they, too, leave the blooms alone, and so the Rose has a chance, and well does she avail herself of it.

"But what of strength of constitution?" I fancy I hear some one ask. "Does your autumn bloom last as well? Will it bear knocking about in Rose boxes like the summer Roses? or when you arrive at the autumn shows do not you find half your Roses showing eyes, or past and gone?" Well, perhaps *Charles Lefebvre* does not last so well now, but of the others that I have named I can never find any difference; but all depends upon the strength of the plant, and my experience tells me that the plant in autumn after good cultivation is stronger than in summer. My plants never seem to get hold of the soil till the summer is over. The soil is so light that it is a mercy the wind does not blow it away. But there is a silver lining to every cloud, and the soil in which a Hybrid Perpetual Rose can scarcely live is the very kind above all others for the Teas, which, however, I must not discuss now, or there is no telling when I shall stop, and the capacity of the *Journal's* columns is limited, and the patience of their readers too; so I will conclude by expressing my conviction that some autumn Roses are quite equal to any summer Roses, and that if anyone thinks that they are not, let him say so and expose the ignorance of a—WILD SAVAGE.

[Mr. George Paul's fine collection of Roses at South Kensington on the 7th inst. contained blooms we think richer in colour than any he has previously this year exhibited.—EDS.]

EUPATORIUM GRACILE ODORATUM.

THIS is by no means a common plant, though none are easier of propagation and culture. It is a sub-shrubby, half-hardy, or cool greenhouse plant, with opposite oblong lanceolate leaves, and terminal corymbs of white flowers and scented. *E. riparium* also has white flowers, and *E. Weismannianum* has rather large corymbs of bloom, but neither of them are fragrant. The heads of bloom of *E. gracile odoratum* are looser than those of the *Ageratum*, and, though white when first expanded, afterwards become suffused with pinkish purple. The habit is dwarf yet rather loose, and inclined in specimens to be decumbent, attaining to a height of 1 to 2 feet, flowering in spring up to June. Its flowering sprays are useful for cutting.

Propagation is readily effected by cuttings of the young shoots. If they are inserted in June and placed in a close frame they root quickly. When struck they should be potted off singly and grown in a cold frame, stopping them when 3 inches high, and again at that extent of growth they form good plants for flowering in 6-inch pots. If larger plants are wanted the plants may be stopped at every third joint, shifting into larger pots as they fill with roots. After flowering the flowered shoots only require to be cut back to firm growth, and when

the fresh shoots are an inch or two long remove most of the old soil and return to the same or a slightly increased size of pot. Shade for a few days and afterwards expose fully. Stop the shoots as they advance in growth, but not after February, when the final potting may be given.

Plants are easily obtained by seed, and they make more vigorous plants than from cuttings. If sown as soon as the seed is ripe good plants are had for next year's bloom. Seedlings, however, flower rather later than plants from cuttings.

Three parts loam with a fourth of leaf soil or well-decayed manure will grow the plants well, good drainage being provided. Free watering is necessary, and a light airy situation. In summer the plants may be placed outdoors, housing them before frost.—G. ABBEY.

PACKING.—No. 3.

PEACH BOXES are 4 inches deep inside. Each fruit is wrapped in tissue or other very soft paper, and afterwards in wadding. All are then laid in the box so closely that they cannot possibly move, corners and all interstices being stuffed with wadding or waste paper, and the box altogether made just a little more than full, remembering that it is even better to crush the fruit a little in packing than to allow the possibility of its moving about during transit. However, there is no difficulty in packing the fruit in such a manner that unless it meets with extremely rough usage it will arrive at its destination uninjured. The best wadding is the cheapest, it being the most elastic, and can be used many times over. There is more fruit injured by being packed too loosely than there is in the opposite direction. People are afraid to give it a little pressure, and then when it passes through the rough hands of the carriers and turned upside down, endways, sideways, and thrown about any way except the right one, some of the fruits shift closer together, leaving a little space perhaps at one end, and then all is over, for every movement afterwards will make matters worse. We must always bear in mind that a package is liable to be thrown from the top of a railway carriage on to the platform, and we must pack accordingly. If it does not happen to receive this sort of treatment all is well, and if it does all is well too so long as the necessary precautions have been taken to have plenty of elasticity combined with firm packing.

Every fruit has to be perfectly ripe and ready for immediate use when packed for a gentleman's table, because we cannot expect those whose hands it afterwards passes through to have the requisite knowledge of judging when it is fit for use; this takes a considerable amount of experience, which even those who profess to have it are often short of. In packing for a London fruiterer the case would be entirely different, as the consignee would probably know more about the peculiarities of the fruit than the sender. Something, too, depends on the manner of gathering the fruit. Once every day at least all ripening fruit on the trees should be tried, grasping it in the hand in a similar way as one would a cricket ball, dividing the pressure as nearly as possible equally all round and giving a gentle pull. If the fruit is ready the stalk will either come out of it easily, or the fruit will be felt to be slightly elastic and may then be pulled off, laying it on wadding in a basket or box at hand for the purpose. A practised hand never bruises a fruit in gripping it in the way I have tried to describe; it is only the unskilled who bruise by pressing too much in one place, and perhaps with the finger and thumb only instead of with the whole hand. The fruit is not generally fit for table for a week or ten days after it is gathered. It should be kept lying on wadding in the fruit room or other suitable place, and be examined and placed on fresh dry wadding every second or third day, as the wadding sometimes gets damp underneath the fruit.

Figs are packed in a similar way to Peaches, and are rather more difficult to manage, as a Fig is of no use at all unless it is fit to be put in the mouth immediately it is taken from the tree. This is especially the case with White Marseilles, which is perhaps the best and the worst sort in cultivation, according to the time and manner of gathering it. It must be allowed time to attain to its delicate yellowish-green colour, be quite soft at the eye, and the skin just commence to crackle. It is good only under these conditions, and of course wants exceedingly good packing. The sort named above and the Brown Turkey are the best I know for both indoors and out. Instead of using tissue paper I generally wrap Figs in a soft Vine leaf (Hamburgh preferred) and afterwards in wadding.

Where very soft, clean, elastic moss can be had I have no doubt it would do as well, or nearly as well, as wadding; but nothing should be used for the purpose which would be likely to partially wither, and consequently leave a vacant space in the box.

Strawberry boxes are 10 by 8 inches outside and 2 inches deep inside. A layer of wadding is placed at the bottom, and then each fruit is laid on a separate leaf, so that no two fruits can touch. The manner of proceeding is something like the following: The fruit is gathered carefully by the stalk and placed in single layers in cane-bottomed sieves; if wet, as it frequently is, it is left in a dry airy position for a time previous to packing. The operator when commencing to pack places the sieve to the right of his box and plenty of dry Strawberry leaves, with the stems picked-off closely, in front of him. The wadding being placed in the bottom of the box, he commences by placing a leaf at the corner nearest his left hand in such a way that the fruit when laid on it will neither touch the side of the box nor the wadding at the bottom; he then takes a fruit by the stalk in his right hand and places it sideways with the stalk outwards and depressed a little to the bottom of the box, so as not to be in the way of other fruits to follow. He holds the fruit in position by the stalk with his right hand, while with his left he takes another leaf and places it so as to protect the second fruit from the first one as well as from the wadding; he now holds the leaf, gently pressing against the fruit with his left hand, and the right is free to take up another fruit. He works in a line away from himself, and then, after making the first line perfectly secure, he follows with a second one, packing all so closely together that a fruit cannot possibly move, and yet without bruising one. When the layer is completed it is covered with a single layer of Vine or Strawberry leaves, then a layer of wadding over all, and the lid is fastened. If the fruit is small, the depth of box I have given will require an extra layer of wadding or more leaves; but 2 inches is none too deep for good fruit of President or Dr. Hogg. From four to six boxes are tied together, except when they are enclosed in other packages.

Grapes are packed in stiff cardboard, rolled up to a point at one end as the shop boys do sugar papers, turning the ends carefully down, and wrapping afterwards in brown paper so as to keep all right without tying. A good size for boxes is 2 feet by 1 foot, and 7 inches deep inside. The interstices are filled with chopped straw.—WILLIAM TAYLOR.

ROSE GOSSIP.

ALTHOUGH it may need some apology on the part of an obscure Rose-grower for presuming to record his humble opinion respecting Roses and Rose-exhibiting in a Journal so replete with information from the highest authorities, yet perhaps it may be as well to have the subject ventilated occasionally by growers in a small way, and on such an understanding I will proceed. Respecting the new varieties I can say but little, for although I possess strong plants of most of the new French kinds, the bloom has not yet been sufficiently general to enable me to judge. I may mention in passing that from observation and information we may find some of the best among the following:—Madame Devert (Pernet), Madame la Baronne de Medeni (E. Verdier), Madame Sophie Fropot (Levet), Marie Louise Pernet (Pernet), Marquise A. de Murinais (Schwartz); but of these I hope we may soon have fuller information from some of the leading growers. I have bloomed the new Tea Triomphe de Milan, and have every confidence that it will prove an acquisition. Respecting last year's lot, English and foreign, I am disposed to think favourably of Abel Carrière, Duke of Connaught, Duchesse de Vallombrosa (very good), Duc de Montpensier, Jean Liabaud, Madame Prosper Langier, Magna Charta, Marguerite Brassac (superb), Mrs. Baker, and Oxonian, but I cannot at present endorse the good opinion expressed regarding Avocat Duvivier, Empress of India, Madame Ferdinand Jamin, Mlle. Emilie Verdier, Queen Eleanor, Triomphe de France (a good bedder), and others, of which the names I fancy will speedily drop out of our lists. Among recent acquisitions I think we may class Casimer Perrier, Comtesse de Serenyi, Hippolyte Jamain, La Rosière, Mons. E. Y. Teas, Rev. J. B. M. Camm, Royal Standard, Sir G. Wolseley, and Star of Waltham. All these I think are well worthy of cultivation for exhibition purposes.

One word respecting garden Roses, and especially summer Roses, for I cannot banish them altogether; surely every rosarian ought to find a place for such old favourites as

Charles Lawson, Coupe d'Hébé, Juno, Paul Perras, Paul Ricaut, Comtesse de Lacépède, Fulgens, Madame Plantier, Madame Zoutman, &c. I rejoice in the possession of trees or bushes of the above and other varieties, and I can truly say they are worthy of cultivation by all those who can see beauty in a Rose not calculated to shine upon the exhibition table in the present day. Some of these old favourites of my youth have disappeared altogether from the catalogues, where I look in vain for a few I would fain replace. Does anyone grow these Roses now—Princess Clementine (H. Prov.), Comte Plater (H. Prov.), George IV. (H.C.), Charles Duval (H.B.), Le Capitaine Sisolet (H.B.), Beauty of Billiard (H.C.)? Methinks I shall obtain but little sympathy from a "WILD SAVAGE," but at least "A PARSON'S GARDENER" may claim a kindred spirit in one who still admires the good old garden Roses, although he has achieved, and hopes still further to achieve, some little success as—AN AMATEUR EXHIBITOR.

STRAWBERRIES FOR LIGHT SOIL.

No doubt the success of "AMATEUR," as detailed on page 110, is primarily attributable to his keeping the surface of the soil protected from the rays of the sun. When this important matter is attended to Strawberries may be grown almost as well in tolerably light and deeply worked soil as on stronger ground, and especially if the light soil is kept firm by little or no digging being done between the rows. It is important to remember that some light soils appear to be favourable to the Strawberry. The soil of many of the fields in Kent, for instance, where Strawberries are grown by tons, is light and gravelly, but the plants bear heavy crops for two or three years. The soil of "AMATEUR" must be in some way peculiarly suitable to the Strawberry, or the crops would not continue so profitable for "eight years, and likely to go on for another eight." It is not the mode of culture that has been adopted that has rendered the plants so perennially profitable so much as the natural adaptability of the soil to the crop. I do not suggest that the culture has been wrong, for the results prove that it has been right; but the same plan if carried out in many light soils would probably have a different and less favourable result. It is a rough-and-ready mode of culture that I have occasionally seen successful, but far frequently the reverse has been the case.

The more reliable practice to adopt on light soils is to plant strong early runners annually. I have often planted such runners in August just a foot apart, leaving out every fourth row for a path, and have gathered a splendid crop of dessert fruit from such beds the following year. The plants when planted thus closely do something to shade the soil, and lawn mowings do the rest. I have occasionally allowed these beds to remain untouched a second year, and have gathered from them a prodigious crop of smaller fruit for preserving, but after that they have been of little further use.

I prefer clearing away the runners immediately after gathering the crop, not cutting off any of the foliage of the plants, and then covering the soil between the plants with lawn mowings, to the somewhat rude practice adopted by "AMATEUR." Although it has answered well in his case I do not think it is generally recommendable.

Mr. Douglas recommends the plants being placed in slight cavities. The plan is good provided the cavities are "slight." I once saw a large bed planted where the word "slight" had been largely interpreted. The plants had been placed in considerable hollows, and in the winter the heavy rains washed the light soil into them, injured the hearts, and spoiled the crop and plants.

Some of the varieties mentioned by Mr. Douglas I have not grown. One sort I shall look forward to with special interest—Loxford Hall Seedling. A good free-bearing late Strawberry is greatly required. Frogmore Late Pine, Elton, and Eleanor are all shy bearers with me. The last-named is the larger of the three, and if not sweet is always very welcome on the table on account of its good appearance. Elton is of good size, also acid.

I agree on all that has been written on the general usefulness of Keens' Seedling, but if I were condemned to grow one variety only it would be Sir Joseph Paxton.—W. S. P.

NATIONAL CARNATION AND PICOTEE SHOW.

In the reports of the Show held at Manchester last week, the Journal says Mr. Simonite won premier both for Carnations

and Picotees. In the *Gardener's Chronicle* report it is stated that the premier Picotee was Chadwick's Miss Chadwick. Which is right?—EX-EXHIBITOR.

[I believe the *Gardener's Chronicle* report is wrong, as I have two independent reports of the Show, and one from Mr. B. Simonite, in which he says, "I also took premier Picotee with Teresa, light rose edged, though some thought my bloom of Mrs. Allerof was the best." Another correspondent says, "Ben was first (and premier) with Teresa, a good bloom showing quality all over." As the premier flower in the Exhibition is of great importance to fanciers, and as Mr. Simonite won both with his own seedlings, I think this explanation necessary.—J. DOUGLAS.]

BY THE SEASIDE.—MEADOW SWEET.

No greater contrast in gardens could be found than in two on which I now look daily, and which are side by side, divided by a low party wall. One of those gardens is totally covered with unmown grass, yet it was once cared for; but the hands which once tended it, and the head which arranged it, and the heart which loved it, are at rest in the cemetery. There remains one plant which, though neglected, still clings to the wall, and still yields flowers. It is a Passion-flower, and suggested a flower sermon that would be misplaced to repeat here. The other garden is well cultivated, and without any regard to order let me note some of its tenants. There are Tamarisks with their pink flowers now out and peeping from among the multitude of fine pale green needle-form leaves. Near it is the *Viburnum Lantana* or "Wayfaring Tree," a name which suggested these lines—

"Wayfaring Tree! what ancient claim
Hast thou to that right pleasant name?
Was it that some faint pilgrim came
Unhopedly to thee
In the brown desert's weary way,
'Mid toil and thirst's consuming sway,
And there as 'neath thy shade he lay
Bless'd the Wayfaring Tree?"

The Rose trees are numerous, and all exempt from mildew and brown-blotched leaves, seemingly indicating that a climate uniformly temperate and air impregnated with saline particles, iodine, and other marine emanations, are preventive of mildew as they are of other fungi. Among those Roses, far superior to their junior relatives, are two genuine and ancient Moss Roses—giants compared with others dwarf of stature and flimsy-flowered, and

"Vaulting o'er banks of flowers that glow
In hues of crimson, gold, and snow."

The old gardener who was hoeing among the border flowers is a quaint character, full of practical knowledge, but totally ignorant of garden literature. You will need no other proof of this than that he had never before heard of the *Journal of Horticulture*; yet he wished for information, and asked who the "Polly Hanthus" was called after! This paralleled the inquiry of the woman who during the Peninsular War asked, "What Sally Manker Lord Wellington had been with?"

The old gardener I have mentioned was earnest in commending some of our wild flowers for garden ornamentation, and Mr. Abbey thus writes of one—"A moist piece of land inclining to a brook is profusely studded with the Queen of the Meadow—Meadow Sweet (*Spiraea Ulmaria*), adorning moist meadows, brook and river banks, and ditch sides, perfuming the air with its sweet Hawthorn-like scent. Scattered patches or even clumps, as we see them in pleasure grounds, are delightful, but to meander amid acres of such sweetness is truly pleasing alike to sight and smell. A voice close by pronounced it 'A beautiful thing, I like its scent far before *Spiraea japonica*, I'll warrant it would force well; in fact, someone stated in the Journal that it had been so employed successfully.' 'In what Journal were the statements made?' 'In the *Journal of Horticulture*.' My friend went on—'A great batch of it would look well and smell better than the honey-like sickening smell of *Spiraea japonica* in any moist piece of land, as the sides of a feeding stream to a pond; and patches here and there in pleasure grounds would be superb, especially if planted in well-manured ground, and occasionally top-dressed with decomposing matter, with good waterings and doses now and then of liquid manure. It would make a famous specimen, just what is wanted in front of shrubberies, for see how fine it is wild, and imagine how much finer it would be under cultivation.' I must admit now, as I did then, the force of those remarks, but I must return and pass from plants wild to plants

cultivated; yet I would note that I observed few Sloes, fewer Crabs, many haws, lots of berries, Hollies' and others, and if bloom be any guide there will be an abundance of haws and a plentiful crop of Blackberries—a good prospect of food for our feathered friends in autumn and winter."

STOCKS FOR ROSES.

In reply to "HOMUNCULUS," I do not quite see how his suggestion as to the stock that best suits each Rose is to be carried out in the Rose election. There would be a great variety of opinions on each separate Rose, and even then much would depend on the soil. Not many years ago—two I think—we had the battle of the stocks, and perhaps if "HOMUNCULUS" refers to that he may see something that will suit him. Such an election could only be conducted by singling-out some half dozen Roses, and asking on what stocks they have been found to do best. But then, again, how difficult to reply. Take Charles Lefebvre for instance, and suppose circulars were sent out to A, B, and C thereon. A replies S.B., the Rose having succeeded admirably thereon, he not having tried or found it necessary to try any other. Now possibly the soil exactly suiting the Rose, it would have succeeded as well on Manetti. B may have tried it on every stock unsuccessfully, the climate being unfavourable.

From the replies I have already received as to the present exhibition election, I may say that some startling results are probable, as already two persons, considering it right to reply to the question by giving their experience in their own Rose grounds of the best forty-eight varieties, wholly exclude from the forty-eight each one a different Rose, because, treat it as they would, they could never succeed in growing a bloom fit for exhibition or that could be placed in a stand without ruining its chance. These will be noticed in due course.

"HOMUNCULUS" mentions the glorious bush of *Souvenir de la Malmaison*. I have a standard bush of *Charles Lawson*. I budded it quite sixteen years ago; the stem is now at least 2 inches in diameter, the head is at least 5 feet through, as for a couple of years I have let it grow as it pleased. This year it has been a sight. I have cut at least one hundred of its beautiful pink blooms, whilst as many more have remained on the tree. The tree stands as a tree, and has long since declined any support.—JOSEPH HINTON, *Warminster*.

VINES.

THE readers of the *Journal* may recollect that I wrote an article some months since on pruning Vines on the quarter-rod system—a plan something between the rod and the spur system. This season we are reaping the full benefit of this plan, for we have not only had to cut off one-half the bunches, but at this time I am sure we have left one-third too many. At the same time, since there is a much larger amount of wood left by this plan than on the long-rod-and-spur system, a Vine can bear a heavier crop.

I will first refer in a few words to my plan. Supposing the main stem to be 16 feet in length I allow four laterals to ramble, say 6 feet in length; when I perceive that the wood is getting ripe I cut each rod down to 4 feet. By this plan I get 4 feet of young wood thoroughly ripe. If I had allowed a rod to run up the whole length of the main stem only half of this rod would be thoroughly ripened; at any rate, the other half would not be in such a condition for bearing fruit as if only 4 feet of a rod had been left. This I have now proved.

With regard to the spur system. In order to keep these spurs within bounds it is necessary to cut them off nearly close to the main stem, so as to get a bud from the axil, which is never so strong or so well developed as the buds further from the axil; besides which the lateral has in all probability given a bunch the previous year. On my plan four or five new thoroughly ripened rods are produced every year on which no fruit is allowed until the following season.—OBSERVER.

AURICULA APHIS.

WHEN I last wrote on the re-appearance of this pest I had no idea of the extent to which it had gone, but on looking over the next frame I found that there was hardly a plant that was not affected by it, convincing me that *Auricula* growers have a most formidable enemy to contend with. I do not think that I was sufficiently alive to its insidiousness when I reported, but I feel that however venturesome it may be to turn all my stock out again I must do it, and indeed have already begun.

It seems to insinuate itself first into the creases of the stem and under the roots which emanate from it just below the surface, and then to work its way down. It does not seem that dipping either in *salus* or *Gishurst* kills it; so I have taken a small painter's brush and brushed diligently all round the collar and every root separately, examining every part with a pocket lens, and afterwards dipped it in a solution of one or the other of the above mixtures, and when it has sufficiently dried have them repotted. If I do not get rid of it thus I shall be in despair.

I wrote at once to Mr. Llewelyn who first drew attention to it, and in his reply he says, "I find the aphid on my plants, although they were all thoroughly washed and repotted in clean soil in May and June. Apparently the early life of the aphid would be within the tissues of the root where the soft soap will not reach them, or in the wrinkles of the neck where it seems first to appear. I have but little of it; still enough to warn and put me on my guard."

This morning's post brought me a letter from an *Auricula* grower in the midland counties, who says, "Since I saw the account of the disease that has destroyed many of your *Auriculas* I have carefully looked over my plants frequently; perhaps from time to time I have found from twenty to thirty aphides. It appears to be a small woolly aphid quite white. The downy substance is deposited round or on one side of the plant just above the soil and as far as the roots are exposed, and even extends to roots making their way to the surface and not connected with the stem; above the soil they become covered with a white down or mould." This is evidently the same, although the description does not quite tally with mine. My correspondent has dressed with tobacco ashes, and although he thinks it efficacious I doubt it very much. We want to know something more of aphid's history. It is distinct from the woolly aphid of the Apple, and is a terrible nuisance to anyone who is visited by it.—D., *Deal*.

THE CIDER FRUITS OF HEREFORDSHIRE.

OUR readers will have observed an advertisement which appeared a few weeks ago in the pages of this *Journal* announcing the publication by the Woolhope Club of the "Herefordshire Pomona." It is now many years since Mr. T. A. Knight produced his "*Pomona Herefordiensis*," the object of which was to illustrate the cider Apples grown in that county, and to introduce to the attention of orchardists some varieties of his own raising which he expected would supersede the old varieties grown for cider, and which he considered had become so much exhausted as to be on the brink of extinction. Happily Mr. Knight's fears have not been realised any more than his hopes; for those varieties of his own raising which were intended to take the place of the older ones have received little attention from planters, and in the county in which they were raised they are perhaps less known and appreciated than they are in other parts of the country.

The "*Pomona Herefordiensis*" of Knight was, even at the time of its publication, a very fragmentary and imperfect work. The plates by which it was illustrated were not specimens of high art or even of average merit, and the letterpress that accompanied them did not consist of such descriptions of the fruit as would enable anyone to identify the variety. The members of the Woolhope Club, being convinced that a matter so intimately connected with the great commercial industry of their county was worthy of a better representative, have determined to issue a "*Herefordshire Pomona*" which shall be worthy of the subject; and while it will embrace all the native and other varieties employed in the production of cider, it will also figure and describe others which are used for dessert and culinary purposes and which are not indigenous to the county, being cultivated merely on account of their merit. In this way the "*Herefordshire Pomona*" will become of wider interest; and we doubt not that if it receives the support of all fruit-growers, as we have no doubt it will, its scope may be extended so as to take in all the varieties of fruits worth cultivating in the gardens and orchards of the country generally. We know that the best artistic and literary talent are already engaged in the work; and from what we have seen of the original portraits we are convinced that the Woolhope Club have undertaken the production of a work which will be of universal interest, and one that will be of great usefulness to the country at large.

Those who appreciate the possession of such a work will obtain all information respecting it on application to J. Regi-

nald Symonds, Esq., Honorary Secretary of the Club, Bridge Street, Hereford.

As an example of what the letterpress will be which will accompany the beautiful coloured plates, we subjoin a specimen descriptive of the old Herefordshire Apple the Fox-whelp.

THE FOX-WHELP APPLE.

"Cider for strength and a long-lasting drink is best made of the Fox-whelp of the Forest of Deane, but which comes not to be drunk till two or three years old."—(*Appendix to Evelyn's "Pomona."*)

The Fox-whelp Apple is the favourite cider Apple of Herefordshire. Its origin and its singular name are alike obscure. Mr. Knight in the "*Pomona Herefordiensis*," published in 1811, thought it "certainly a true Herefordshire Apple," and it may readily be supposed that the stray seedling sprung up near a fox's earth, and thus when it had shown its character

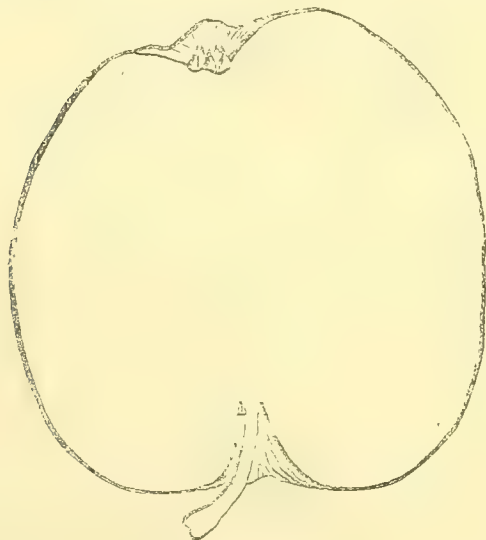


Fig. 28.—Fox-whelp.

obtained its name. Some devoted admirers think they see in the eye of this Apple a distinctive resemblance to the physiognomy of a young fox, but here surely the name has guided the imagination. Wherever it grew the brilliant colour of its

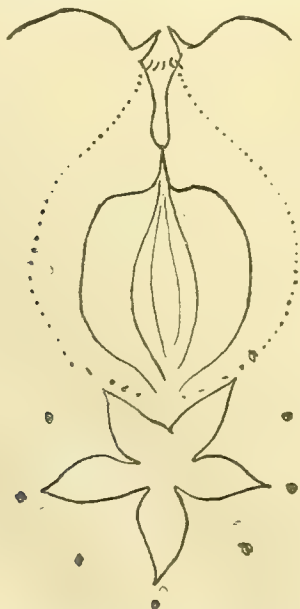


Fig. 29.—Fox-whelp.

fruit would render it conspicuous, and its taste with a judge of Apples would proclaim its merit.

The earliest record we have of the Fox-whelp is by Evelyn in his "*Pomona*," which is an appendix to the *Sylva* "concerning fruit trees in relation to cider." This was first published in 1664, and at that time and long after the great Apple of Herefordshire was the Red-streak. The Fox-whelp is disposed of in a few words—"Some commend the Fox-whelp." Ralph Austen, who wrote in 1653, makes no mention of it when he says, "Let the greatest number of fruit trees not only in the orchards but also in the fields be Pear-maines, Pippins, Gennet-Moyles, Red-streaks, and such kinds as are known by much experience to be especially good for cider." Neither is any notice taken of it by Dr. Beale in his "*Herefordshire Orchards*," written in an epistolary address to Samuel Hartlib, Esq., in 1656. The first notice of it after Evelyn is by Worledge in 1676, who merely says, "The Fox-whelp is esteemed among the choice cider fruits." In Evelyn's time it appears to have been regarded as a native of Gloucestershire, for Dr. Smith in the "*Pomona*" when writing of "the best fruit (with us in Gloucestershire)" says, "The cider of the Bromsbury Crab and Fox-whelp is not fit for drinking till the second year, but then very good;" and in the quotation at the head of this paper "a person of great experience" calls it "the Fox-whelp of the Forest of Deane."

Although all who have noticed the Fox-whelp up to this period have spoken of its merits as a cider Apple its cultivation must not have been on an extensive scale, otherwise it would have been better known than it appears to have been. Even Philips in his celebrated poem on "*Cyder*" seems as ignorant of its existence as many of the writers on orchards were at that period. The first appreciative notice of it with which we are acquainted is found in a letter to a friend written by Hugh Stafford of Pynes in Devonshire, Esq., bearing date 1727. He says, "This is an Apple long known, and of late years has acquired a much greater reputation than it had formerly. The fruit is rather small than middle-sized, in shape long, and all over of a dark red colour. I have been told by a person of credit that a hogshead of cider from this fruit has been sold in London for £8 or eight guineas, and that often a hogshead of French wine has been given in exchange for the same quantity of Fox-whelp. It is said to contain a richer and more cordial juice than even the Red-streak itself, though something rougher if not softened by racking. The tree seems to want the same helps as the Red-streak to make it grow large. It is of Herefordshire extraction."

The fruit is roundish, inclining to conical or ovate, with an uneven outline, caused by several obtuse ribs on the sides, and which terminate in ridges round the eye; in good specimens one side is generally convex, while the other is flattened. Skin beautifully striped with deep bright crimson and yellow; on the side next the sun it is more crimson than it is on the shaded side, where the yellow stripes are more apparent. The surface is marked with several dark patches like scabs, which are a never-failing character of the Fox-whelp. Eye very small, set in a narrow, shallow, and plaited basin; segments short, somewhat erect, and slightly divergent. Stalk three-quarters of an inch long, obliquely inserted by the side of a fleshy swelling, which pushes it on one side and gives it a curving direction. Flesh yellow tinged with red, tender, and with a rough and acid flavour. Calyx-tube funnel-shaped. Stamens marginal. Cells of the core wide open. It belongs to group 10 of Dr. Hogg's New Classification of Apples.

(To be continued.)

ROSES AT FERRIÈRES.

It may be interesting to your readers to know what varieties of Roses are grown by Mr. Ferdinand Bergman at Ferrières. What is wanted there is not to have fine Rose trees but plenty of blooms, as the demand for them is very great. About fifteen thousand blooms are required and used in the course of the year for bouquets, table decorations, &c., for Ferrières and for Paris as well. You may therefore imagine that to supply such a quantity of Roses it is necessary to have a great number of those varieties which bloom very freely. Many varieties are grown, but those grown in quantity are the following:—Paul Neron, Maréchal Niel, Baronne de Rothschild, Gloire de Dijon, Madame Boll, Madame Lacharme, Annie Wood, La France, Belle Lyonnaise, Charles Verdier, Jules Verdier, Souvenir de la Malmaison, Souvenir de la Reine d'Angleterre, Elizabeth Vigneron, Madame Falcot, Capitaine Christy, Le Roi, La Reine, Général Jacqueminot, besides a number of other Teas and Noisettes. The varieties preferred for forcing are Le Roi, La

Reine, Jules Margottin, Madame Boll, Maréchal Niel, and Gloire de Dijon.

No Roses are grown in pots; those for forcing only are placed in pots to be taken to the forcing houses, and after they have done flowering they are planted in the open air. Every spring a thick dressing of short dung is placed between the Roses, and in the autumn the ground is ploughed. Every three years the trees are removed and planted in a trench 2 feet deep, with horse and cow dung mixed and in quantity. The pruning is done in March and April after the frosts are over. About one half of the Roses are standards and the other half dwarfs, some on Briars and some on their own roots. It has been found that Roses on Briars bloom freely, while Roses on their own roots give much better flowers. As climbing Roses they have especially Maréchal Niel and Gloire de Dijon. At the end of December they began cutting Roses in the houses from Le Roi, La Reine, and Jules Margottin; that is about their usual time.

Paul Neron, which is not much liked in England, is put in the first line at Ferrières, and is considered the best for their purpose. It grows well, has shoots of 2 or 3 feet long, gives large blooms, and stands well; but above all its first quality is that while all other trees round it suffer from mildew, it is the only one that is not so attacked.—ERNEST BERGMAN.

YORKSHIRE FRUIT CROPS.

HAVING previously alluded to this subject, I will now complete my observations upon the fruit crops of this year.

Apricots on every aspect but a south one and well protected are a complete failure. The crop against a south wall is moderate. The only kinds that carry a fair crop are Blenheim or Shipley, Royal, Kaisha, and Moorpark.

Peaches and Nectarines against a south wall and well protected have totally failed. The trees were a pitiful sight from the prevalence of "blister." The kinds that have suffered most are Violette Hâtive and Barrington, the most healthful being Malta, and next to it Noblesse.

Plums must be recorded a failure. The only kinds that have fruit against walls are Early Orleans, Pond's Seedling, Victoria, and Yellow Magnum Bonum, those having a moderate crop, whilst there is just a sprinkling of Belgian Purple, Coe's Golden Drop, Jefferson, and Green Gage. In the open ground Orleans and Victoria carry a moderate crop, there being a sprinkling of Early Prolific and Oullins Golden Gage.

Cherries in the open have signally failed, the only one with fruit being Impératrice Eugénie, but bush or pyramid Morellos are loaded. The north aspect of the walls are occupied by Cherries. Morellos carry a heavy crop, and so do May Duke, Harrison's Heart, and Elton.

Pears are for the most part fruitless. The only kinds carrying a crop of fruit with the benefit of a wall are General Todtleben, Hacon's Incomparable, Glou. Morceau, Alexandre Bivort, Napoleon, Bœurré Diel, and Bergamotte Espéren, with a fair crop of Doyenné d'Été and Jargonelle, and just a sprinkling of Bœurré d'Amanlis, Passe Colmar, Winter Nelis, and Joséphine de Malines. In the open Jargonelle, Williams' Bon Chrétien, Bœurré Diel, Bergamotte Espéren, and Zéphirin Grégoire have fair crops.

Apples may be said to be a fair crop, some kinds being loaded, notably Warner's King (but the foliage much cut and the fruit "pitted"), Cox's Pomona, Dumelow's Seedling, Bedfordshire Foundling, Holland Pippin, Northern Greening, Cellini, Lord Suffield, Mère de Ménage, Cox's Orange Pippin, Margil, Court of Wick, Irish Peach, and Yorkshire Greening. Keswick Codlin and Manx Codlin, with many others, are almost destitute of fruit, but considering the great scarcity of other fruits it is gratifying to see even a few Apples.

Bush fruit, particularly black and red Currants, carry very heavy crops; but Gooseberries are variable, some kinds being heavily cropped, such as Whitesmith, Antagonist, Crown Bob, and most of the Lancashire kinds, but Red Warrington is very thin. Raspberries a good crop, but late.

Strawberries a good crop, that of President being enormous. I do not grow many kinds, our wants being met by Keens's Seedling, or that form of it often confounded with Sir Harry, which is a great cropper and a first-rate forcer. La Grosse Sucrée is not a great though a certain cropper both out and indoors, and one of the best for forcing. Sir Joseph Paxton is producing heavily upon two-year-old plants, but last year's runners are sparse of fruit. Duc de Malakoff is neither so heavy in crop nor the fruit so large as usual, whilst Sir Charles

Napier is heavily cropped. Hélène Gloede, a later and improved Frogmore Late Pine, is good, and Luas is one of the finest Strawberries in cultivation.

Fruit trees generally are making very vigorous growth, and have for the most part clean healthy foliage. Aphis has been very troublesome upon Plums, making the leaves curl, and the shoots have a distorted appearance; but as I keep the growths closely stopped most of the aphides disappear with the removed sprays. I like as many leaves as possible around the spurs, and not long sprays. There has been a great prevalence of grubs and caterpillars that feed upon the foliage of fruit trees, all of which have great enemies in birds. Sparrows have looked after the Apricot grub so well as to need no help from us. The number of grubs sparrows destroy in feeding their young must be enormous—not only in the nest, but for a time after the young take wing. Sparrows only do harm when in undue numbers, as they may be in a town garden.

I write from north Yorkshire, over 500 feet above sea; soil a peaty loam with a variable subsoil, mostly sand, gravelly, or rocky. In the orchard, which is not less than 100 feet lower than the garden and sheltered on every side by woods, the crops of fruit are more scant; no Plums except Farleigh Damson, no Pears, and not many Apples.—G. ABBEY.

FERTILISERS AND THEIR APPLICATION.

As it is clear that I have been misapprehended by "J. B. K.," a few further explanatory remarks become necessary. I certainly do not give up the point of quantities, for the reason that I never recommended any such extravagant applications as those deduced by your correspondent. After I stated that not a particle of guano was applied between the rows of Peas (more than four-fifths of the ground), it was, I think, superfluous for "J. B. K." to assume that it was used there. As to the same quantity of liquid manure having been applied to a square foot of the surface of an Onion bed that was poured into the hollow trench of a Pea row, anyone having sufficient experience in watering such crops knows to be impossible in the ordinary mode of watering: hence deductions founded on theory alone are so often fallacious.

I was requested to name what I considered a proper strength of using guano water for garden crops, also how much water to apply to those crops. I advised mixing guano at the rate of something less than 1½ oz. to a gallon of water, and recommended as much being applied as the ground would take. I am unable to give more practical advice on watering than that. If crops require watering they should be watered thoroughly, for much experience has satisfied me that half watering does more harm than good. I also and particularly recommended (bearing in mind the large quantities of water that some ground will take) that if the crops are first watered with clear water the ground will not take more than half the quantity of liquid manure that would otherwise be required. That I submit is the best—the most economical and effectual—way of using liquid manure, applying fertilisers, and when so applied the quantities named are not extravagant at all, but are reasonable. I further, in order to prove that the strength of the guano water named was not injurious (poisonous), detailed my experience of using it in an extraordinary season, and the crops when so treated showed conclusively how beneficial the applications were, for such crops were full and luxuriant when all surrounding crops that had no such cultural assistance were dead. I have great respect for the labours of scientific men, but none for a practice that results in dying crops.

In an exceptional season like the one referred to—such a season as I do not hope to see again, demanding such exceptional labour to preserve the crops—guano when applied in farm or double farm quantities and left, as has been advised, to be washed-in by the rains, is simply wasted. How can it be otherwise when no rain falls for several weeks, and when the crops are "dead failures?" On the farm I alluded to I know it is a fact that more than twenty times the guano was used than was applied in the garden, and yet the farm (as the owner well remembers) was a complete failure that year, while the garden, as he readily admitted, and admits still, was a great success.

I will now go a step further, and submit proof that even in the exceptional year named the large quantities of liquid manure used were not superfluous. That the crops appropriated all the water I do not for a moment suggest. The atmosphere may have absorbed half of it for aught I know to

the contrary; but this I do know, that had the water, &c., not been given the crops would have been worthless, as I think the following facts, extracted from my garden diary, will afford sufficient evidence. On June 27th, 1868, twelve long rows of *Ne Plus Ultra* Peas were sown in unmanured trenches. The heat was intense; no rain nor dew for several weeks. The Peas came up blue and wiry. I was satisfied that nothing could save them but heavy soakings of liquid manure. My kitchen garden man differed. Four rows were placed at his disposal for him to do as he liked with. Two of the rows were not watered at all, and the Peas died when 6 inches high. The other two were watered with clear water, and the Peas attained a height of 3 feet, and two small dishes of Peas were gathered from each. The other eight rows were soaked once a-week with guano and salt water, quite filling the trenches at each watering. Finer rows of Peas than these I never saw. They grew luxuriantly, especially after the autumn rains commenced, and Peas were abundantly produced; in fact the crop was a full one, and no mildew was seen on the foliage. "J. B. K." is quite welcome to consider that the guano and labour was wasted, but I know the owner who had both to pay for did not think so, and I am of the same opinion now as he was then.

I do not dispute that your correspondent has had some practice with fertilisers, but I think he has never produced a full and regular supply of fruit and vegetables for thirty people from an acre of ground, and this for several years without a failure, or he would not betray so much fear of poisoning the vegetables or advocate homœopathic doses of fertilisers. Such limited applications may do in some soils and under some circumstances, but to enable the majority of gardeners to meet the heavy demands on them and the soil they cultivate liberal applications become necessary, and are the most profitable in the end.

I agree with Mr. Douglas and "J. B. K." that good farm-yard manure is preferable to any so-called artificial dressing, but how few there are who can obtain enough of it! I do not hesitate saying that not one kitchen garden out of twenty is sufficiently manured and trenched. I form my opinion on the practice of the best of the London market gardeners. Your issue of the 2nd inst. contains a note on the heavy manuring that is adopted in the "market grounds," and the success of some of Mr. Bagley's crops are alluded to. It so happens that those grounds were my school for kitchen gardening; and if manures are so poisonous as "J. B. K." has suggested, it is a little strange that Messrs. Bagley's vegetables continue being held in such high esteem. Those celebrated growers use infinitely more manure than the "extravagant" quantities I have recommended, and I never knew the crops or ground poisoned, except on the sites of the Mushroom beds, and there, of course, the manure has lain 3 feet thick for six months. Not long ago I paid a visit to the "old school," and found them manuring as freely as ever. What does "J. B. K." say to upwards of 80 tons of dung per acre being used at one application? and yet Mr. Bagley assured me that they used half a ton to the rod (30½ square yards); in fact, I have seen them applying it at that rate. Why do they use it thus liberally? The answer is obvious, because it pays to do so, and yet the dung has to be purchased and carted six or seven miles. Soot is also freely used in the market grounds in addition to stable manure, and the condition of the crops tell how much they enjoy the rich food.

Instead of danger existing of poisoning the crops a greater danger by far is that of starving them, and I do not withdraw one word that I have written on the subject wherein "J. B. K." imagines I have erred so seriously.—A RETIRED GARDENER.

NOTES AND GLEANINGS.

THE GREAT INTERNATIONAL FRUIT AND FLOWER SHOW at Carlisle on 6th, 7th, and 8th of September. We are glad to learn that Lady Musgrave has increased the prize offered in the schedule for table decorations, and her ladyship will now present a cup valued at £25 to the successful competitor. The latest date for entries is now extended to the 30th of August, and a spirited competition is anticipated. Lady Musgrave, Eden Hall, and Lady Lawson, Brayton, have agreed to act as judges in this section.

A LETTER from Fulham informs us that there has not been such a good season for DWARF KIDNEY BEANS and SCARLET RUNNERS for ten years past. The market gardeners are receiving strong orders for the former, from the large pickle

manufacturers no doubt embracing the opportunity, as the quality may not be as good for some time to come. Vegetable Marrows are also a fine crop. Mr. Bagley's firm sent to market in one load about 4 tons on Saturday morning.

— WE have received the schedule of the twenty-second annual exhibition of fruit and cut flowers to be held at the CRYSTAL PALACE on September 21st and 22nd. There are twenty-six classes for fruit, ten for cut flowers, and two for vegetables. The chief prizes are £8, £6, and £4 for twelve dishes of fruit, and £6, £4, and £2 for a collection of vegetables. Besides good prizes being offered for Dahlias and Asters we are glad to find that encouragement is given to Gladioli growers, prizes of £3, £2, and £1 being offered to nurserymen for thirty-six spikes, and the same amount to amateurs for twenty-four spikes. Third prizes are provided in every class; and as the prizes are liberal without being extravagant, a good exhibition should result in a place where so many good displays have been seen in past years.

— THE annual Exhibition of the ISLE of THANET HORTICULTURAL ASSOCIATION is to be held this year on the 29th inst. by the kind permission of Latham Tomlin, Esq., in the grounds of Dane Court, St. Peter's, when upwards of 450 prizes will be competed for. A primary object of the Association is to encourage cottage gardening, and it receives the patronage of the Archbishop of Canterbury and many distinguished ladies and gentlemen of the district. C. D. Smith, Esq., 8, Marine Terrace, Margate, is the Hon. Secretary.

— A CORRESPONDENT forwards to us the following description of FRUIT-GROWING ON A RAILWAY EMBANKMENT in Brittany. "The whole of the usually waste ground by the sides of the line was planted with fruit trees, chiefly Pears and Apples. They were planted about 3 feet apart each way, each tree having two stems. One was bent to the right the other to the left, and when these limbs crossed each other they were tied together, so that the whole presented a continuous trellis of fruit trees, and as they were then (first week in May) in full blossom they added beauty to the scene."

— WE have received from Mr. P. Mitchell, Sydenham, a small case containing the COLORADO POTATO BEETLE in its various stages, modelled by Messrs. Stallwerck Brothers, Cologne, and for which Mr. Mitchell informs us he is the principal agent. The beetle is well shown, and the low price at which it is distributed places it within reach of all cultivators.

— THE Committee of the National Rose Society have determined on publishing a "ROSARIANS' YEAR BOOK," exclusively devoted to the Rose, and to contain a full report of their great show, critiques on new Roses, and other papers of interest connected with the queen of flowers.

— HORTICULTURE at the ANTIPODES would appear to be in a prosperous state, and a favourite pursuit of the well-to-do population, if we may judge from the copious catalogue of Messrs. Giles & Son of Magill, near Adelaide. This is a very full list of trees, shrubs, and plants. Amongst the latter are included the best varieties of Pelargoniums, Fuchsias, Dahlias, Clematises, &c., which are found in the lists of English nurserymen and florists. It is pleasant to notice this instance of antipodean enterprise, and the trade which evidently exists with the "mother country."

— A CORRESPONDENT of one of the daily newspapers recently observed that "it is probably not generally known that the region in which General Gourko has been lately operating with his Cossacks is the land whence by far the greatest quantity of ATTAR OF ROSES comes to western Europe. Kasanlik is the centre of one of the most remarkable species of horticulture, or rather agriculture, to be found in the whole world. Around it or near it are the districts of Cirpan, Giopça, Karadshah-Dagh, Kojun-Tepe, Jeni-Saghra, all of which are devoted to this peculiar husbandry. The Mussulman tradition assigns the origin of the Rose to the night of Mahomet's journey to Heaven. The white Roses sprang from the drops of sweat which fell from the forehead of the prophet himself in the toil-some ascent; the sweat of Borak, the miraculous animal he rode, gave birth to the yellow ones; while the celestial drops which fell from Gabriel were the source of the red Rose. Count von Moltke, who was well acquainted with Bulgaria and the Balkans, has styled the valley of the Tundja 'the Cashmere of Europe, the Turkish Gulistan, the land of Roses.' Roses are not grown there as with us in isolated patches in gardens, but in fields and in ridges, as if they were no better

than Potatoes. It would be difficult to imagine anything more charming than the appearance of those Rose fields, and any painter who should attempt to reproduce this picture would assuredly be charged with exaggeration; but it would be impossible to catch the infinite alternations of colour both among the Roses themselves and the green leaves of the shrubs. Hundred of millions of Rose leaves strew the ground, and are useless for the chief object in view. It is calculated that about one-fourth of the leaves are lost in this way; perhaps as much more either fail to come to the requisite perfection or are unavoidably wasted. The entire produce of the Tekne or region, of which Kasanlik is the centre, is estimated at between 800 and 900 kilogrammes (from 195 to 220 imperial gallons) of Rose oil. The wealth of water in the valley is prodigious; springs are not only numerous but most abundant in yield. There is a general system of irrigation which, remembering that the country is Bulgaria and not Lombardy, is admirable. The whole valley was a picture of prosperity, the result of natural fertility carefully tended by human industry. Where Roses are not cultivated heavy crops of Maize are gathered, and along the slopes and down by the waterside are numerous herds and flocks. Kasanlik itself is a town of 10,000 inhabitants, and is surrounded by magnificent Walnut woods, which also are a source of commercial industry.

— MESSRS. DICK RADCLIFFE & Co. have received a silver medal from the Cape Exhibition for seeds, and one also from Oporto for ferneries and aquariums.

— THE American "Gardener's Monthly" contains the following on wintering CAMELLIAS IN COLD FRAMES:—"We have here a few single-flowered Camellias, on account of our crowd of tropical plants are denied greenhouse space; hence we winter them in a deeply-sunk cold frame, which has no covering in winter beyond single sashes and single wooden shutters. These plants are not in pots or tubs, but each one has amassed a ball of roots. Late in April, or early in May, they are planted out, and on the approach of winter are lifted and heeled in the frame. As might be expected, they live unscathed, but this year each Camellia was as full of blooms as any specimen in Hovey's conservatory, and too, these blooms expanded fully, and were large and bright, and at their best in early May. Not a bud dropped."

— FINE SURFACE CULTIVATION is the secret to success in gardening. All good farmers know that it is the best means of successful cultivation in all of what are called the hoed crops of the farm. That it is so in garden culture must be plain to every intelligent man, since the seed of most garden crops are minute, and the plants themselves are, for a considerable time after germinating, delicate. The first requisite to success in gardening is, of course, a thoroughly rich soil; the next is drainage; the third is such surface culture as shall keep the plants growing as fast as possible. These are, in fact, three great points for successful cultivation with any crop, but especially so with those of the garden.—(*Prairie Farmer*.)

— IN many parts of India, says the *American Garden*, the flowers of a tree called *BASSIA LATIFOLIA* form a really important article of food. These blossoms, which are succulent and very numerous, fall at night in large quantities and are gathered early in the morning and eaten raw. They have a sweet but sickly taste and smell. They are also dried and stored as a staple article of food. A single tree will afford from 200 to 400 lbs. of flowers. These trees are of so much importance to the natives that when an invading force threatens to cut them down the threat generally insures the submission of the tribes. The blossoms of another species, *Bassia longifolia*, are used in a similar manner in Malabar and Coromandel. These are eaten either dried and roasted, or bruised to a jelly and boiled. The last are made into small balls, which are sold or exchanged for fish, rice, and various sorts of small grain. The seeds of all varieties of *Bassia* are no less useful than the flowers. Oil and soap are made from some, and from others a fatty substance called butter is extracted. This is of white colour, has an agreeable taste, and keeps well. It is an important article of commerce in Sierra Leone.

— MR. W. FALCONER writing in the American "Gardener's Monthly" on *BOUGAINVILLEA SPECTABILIS*, states, that "Although a native of tropical South America, this gorgeous climbing shrub feels quite at home with us in our Acacia house, which is an airy house with a winter night temperature of 38° to 42°. It is growing in a shallow tub, in a compost of

turfy loam with a little peat and leaf soil, and is trained up a pillar, thence along the top of the house. In summer we give it lots of water, but in winter keep it as dry as a Cactus. About the 10th of April its paniculate inflorescence and wealth of showy rose-coloured bracts become conspicuous and last all through May." We recently observed *B. glabra* in splendid condition in the greenhouse at Kew. It was planted-out and trained near the glass at the end of the house.

— A PROFESSOR of the Cornell University, N.Y., lately stated that Professor Buckman late of the Royal Agricultural College, Cirencester, in a prize essay on "Agricultural Weeds" enumerated 156 kinds in the cultivated lands of Great Britain, whence came most of the weeds that trouble the farmers in the United States and Canada. The number of seeds, says the American professor, produced by a perfect plant of the Dandelion is 2000; by the Ox-eye Daisy, 13,000; Dock, 13,000; Burdock, 24,000; May Weed, 40,000; Red Poppy, 50,000; Charlock, 4000; Wild Carrot and Wild Parosip, 1200 each, showing an increase from 1200 to 50,000 fold, while the cereals are set down from 20 to 300 fold.

— REFERRING to a note in our columns relative to the PHYLLOXERA, the American "Gardener's Monthly" dispels the idea that American Vines are Phylloxera-proof, but on the contrary states that "there is little doubt but the Phylloxera first appeared in the vicinity of Bordeaux, and was introduced by American Vines." Our contemporary further records that "Professor Planchon discovered that some American Grapes had a sort of contempt for the Phylloxera, while some—and all European Grapes—had their fibres injured by the insect. They gave up at once, as if asking, What's the use of resistance? But the Concord, Clinton, Norton's Virginia, and one or two others set to work and made more young roots at once, beating the Phylloxera by sheer perseverance." We do not dispute the correctness of that statement, but at the same time we cannot quite reconcile it with that portion of the report of the President of the Vine-growing Society of Pyrenees Orientales, which asserts that "each plantation of American Vines is the signal for a fresh invasion of the Phylloxera." It is just possible, however, that the American Vines are less vigorous in Europe than in their "own country," and which may account in a measure for the discrepancy alluded to.

THE ROSE YEAR.

WELL done, "PARSON'S GARDENER;" you had me there—you scored one in your last letter. I do not wish to stop your chucking at all, but feel obliged just to moderate it by telling you that since the Rose season commenced our drawing-room and our church have never been without Roses.

It is true that the Roses in my front garden were soon over, indeed my remarks in the Journal were not beyond the mark. But I am far too wise to carry all my eggs in one basket. I grow my Roses in all sorts of places, so when one part is quite done I have others to fall back upon. My front is one of the most sheltered and best situations you can possibly imagine, and there the Roses come and go very rapidly, but in other parts of my place I can keep-up a succession and shall not be without Roses of some kind till November. I have no glass wherein to prolong the blooming like my critic has, but without that aid I will back my Roses to last as long as even the older garden sorts of "A PARSON'S GARDENER."

But still my own idea so far agrees with his that I intend to make an alteration in my front, and not to devote the whole to exhibition Roses. I intend, however, to make an herbaceous border, and I do wish some of your staff or readers would give me, through the Journal, a list of herbaceous plants which must not be left out from it. The border is about 70 feet long and 5 broad, and the only plants I have at present are a few varieties of *Aquilegia*, *Iris*, and *Phlox*.—WYLD SAVAGE.

ROSE SHOWS IN SCOTLAND.—I read with attention "D. Deal's," report of the Galloway Rose Show, and was glad to hear that so much was thought of the Rose in Galloway as to induce them to have a special show for Roses. If the Gallowegians fancy they are at the top of the tree in regard to Rose-growing in Scotland, I hope they will now throw their competitions open at least to all Scotland, so that those who have not the privilege of residing in their little corner may have an opportunity of trying their mettle. I sincerely hope that next year we in Scotland may have an earlier and better season

for Roses than we have had this year. Except a few days in June it has been rain almost every day, and cold along with it.—A. A.

STRIPED QUARRENDEN APPLE.

WHEREVER ripe dessert Apples are wanted about the end of July and the beginning of August this variety should be grown. We have been using it for some time now in excellent condition. The fruit is about middle size, pale yellow, streaked with red outside, and white, juicy, and rich in the flesh. It is grown under several other names, as may be found in the last edition of Dr. Hogg's "Fruit Manual," which contains under the name of Margaret the following descriptive and historical account of this good Apple:—

"A first-rate early dessert Apple; it is ripe in the beginning of August, but does not keep long, being very liable to become mealy. To have it in perfection, it is well to gather it a few days before it ripens on the tree, and thereby secure its juicy and vinous flavour.

"The tree does not attain a large size, being rather a small grower. It is a good bearer, more so than the Joanneting, and is quite hardy, except in light soils, when it is liable to canker. It is well adapted for growing as dwarfs, either for potting or being trained as an espalier, when grafted on the Paradise or Pomme Paradis stock.

"This is a very old English Apple. It is without doubt the Margaret of Rea, Worlidge, Ray, and all our early pomologists except Miller; Mr. Lindley, however, is of a different opinion, for he believes the Margaret of Miller to be identical with that of Ray. That this variety is the Margaret of Rea, his description is sufficient evidence. 'The Margaret or Magdalen Apple is a fair and beautiful fruit, yellow, and thick striped with red, early ripe, of a delicate taste, sweet flavour, and best eaten off the tree.' Ray gives no description of it, but it is only reasonable to suppose that it is this variety he refers to, seeing it is the Margaret of all authors both immediately preceding and subsequent to him. And indeed in no instance is that of Miller noticed by any English author but himself anterior to Mr. Lindley."—A KITCHEN GARDENER.

OUR BORDER FLOWERS—LILYWORTS.

We have not a native representative of this charming order of plants. I wish we had. We have a plant bearing the name of Lancashire Bog Asphodel (*Narthecium*), but then it is not a Lilywort. As to their wherefrom, they reach us from many places far over the sea. The King's-spear Lilywort (*Asphodelus ramosus*) is from southern Europe, and has long been an occupant of our borders, but has not received that amount of attention it ought to have done. Truly it is a noble plant when established, and wants leaving alone. It is said to cover immense tracts of land where it is located, and affords good nourishment for sheep. It was sacred to Proserpine, and used at funeral ceremonies. *Asphodelus luteus* is most commonly met with, and when well cultivated is a very useful early and long-continuing border flower. *A. luteus flore-pleno* is a very desirable plant, and an improvement on the parent. *A. fistulosus*, said to be from France and Italy, is but very little known and seldom seen. Perhaps the least interesting of the family, yet useful for filling up spaces in waste or out-of-the-way places, is *A. creticus*. *A. capillaris* is one of the dwarfiest of the race, and ought to be much more cultivated than it is at present. There are other kinds that might be enumerated, but the foregoing are found in general cultivation.

They are not particular as to soil or situation, but are all the better for having liberal treatment afforded them. They enjoy light, and thrive well in ordinary garden soil mixed with sandy loam and well-decomposed vegetable matter. The spaces they are intended to occupy should be well broken up to the depth of 2 feet, and the above compost mixed with the soil. They are benefited by thorough drainage, and water when the weather becomes dry. If mulched they are all the better, and they require staking to prevent the wind from breaking them. They are increased by seed, but more easily by division, either in the autumn or early spring, when growth is commencing.

—VERITAS.

ROSES FROM CUTTINGS.

A FEW years ago I was persuaded to strike some Roses from cuttings. I did so, and was very successful, and I have been following the same plan every year since, without failure.

Early in October I procured some good cuttings, and cut them with a sharp knife and let them dry slightly at the ends, and planted them firmly in a bed of common garden soil mixed with a little old lime rubbish. The result has been that eight out of every ten cuttings have rooted. I have struck nearly all sorts up to the present time. As I notice you have had some inquiries from correspondents who want to increase their stock of Roses I advise them to try this simple plan.—S. J. W., Trowbridge.

IXORAS.

Few stove plants are more valuable both for exhibition and decorative purposes than *Ixoras*. As large specimens with rich deep green foliage and noble heads of flowers they have an imposing effect, while as smaller plants with from one to half a dozen trusses few plants can excel them during their period of flowering.

Ixoras are purely tropical plants, and the imported species are almost exclusively from tropical Asia. An Asiatic name has therefore been appropriately given to the genus, *Ixora* being a Malabar idol, to which the flowers of *Ixora stricta* (as



Fig. 30.—*Ixora* for decoration.

it was originally named, but now known as *coccinea*) are offered by the natives. This species is the first that was introduced to Europe nearly two hundred years ago, and it is popular and deservedly so, even when it has as rivals several beautiful garden hybrids which have recently been raised and distributed. *Ixoras* can be easily propagated by cuttings. Take a short-jointed half-ripened cutting about 6 inches long and insert it firmly in a small thumb pot in a compost of peat, leaf soil, a little fibrous loam, and a good admixture of silver sand. Plunge the cutting pots in bottom heat in a moist well-heated stove or propagating house, and not many days will elapse before roots are emitted. When these reach the sides of the pots transfer them to pots a little larger, and eventually into 48-sized pots, using the same sort of soil as described for the cuttings. Healthy plants in 5-inch pots are of great use for table decoration, while medium-sized plants with 6 or 7 trusses of flowers on them are very valuable for many purposes of decoration, as may be judged from the example shown in the accompanying illustration, fig. 30. The next shift should be into a 32-sized pot. Future shifts must be at the discretion of the grower, according to what size plants are required, but large shifts should never be given, which often result in sour soil and unhealthy plants. A little liquid manure may be given occasionally when the plants are established. Do not give the plants too much water in the winter time, and avoid drips from the roof, especially on such tender varieties as *Colei*, for drip at that period is fatal to good foliage. During the growing season afford plenty of heat and syringe twice a-day, the pots if possible being half plunged in a hotbed. Any shoots

threatening to steal strength from the others should also be stopped to give two or three shoots instead of one. If fly, or thrips, or bug appear there must be smoking and sponging at once.

This treatment should continue, with a little shade from very bright sun, until September. The pots should then be raised out of the hotbed, the plants placed nearer the glass and in full light; and though syringing may be resorted to at times, it

should gradually be discontinued, and water at the roots also lessened, but never so as to cause the plants to flag. The object is to ripen the shoots formed. During October and November the water must be lessened, and the temperature fall then and on to February to 60° and 55°, the roots just kept healthy and no more, and care taken of the leaves by syringing and sponging on a fine bright day. The rest is thus given at the dull season, as the flowers are much more pale when produced in



Fig. 31.—*IXORA REGINA*.

winter. About March, or earlier, the plants are to be moved into a higher temperature by degrees, and at first the pots partially and ultimately three parts plunged in a sweet hotbed, with openings below the pot to secure drainage. The temperature may be gradually raised to 75° and 80° with air, and of course waterings at the root will be more needed as the temperature rises, and the syringe must be pretty well used before the bloom trusses show. Then a drier atmosphere should be given and the plants be lifted out of the bed as the flowers open, and kept cooler and drier to preserve the bloom.

Ixoras cannot be grown in a low temperature. On this point a good authority has written as follows:—"I would particularly allude to this high temperature and moist atmosphere in summer as essential to success, as I have had several complaints that the *Ixoras* cannot be managed in a warm greenhouse temperature—about 50° in winter, and very airy in summer. It is waste of time attempting such plants under such

circumstances. I have given them up for a time because I have not enough heat for them. Those who can command a dryish atmosphere of from 55° to 65° in winter and a fermenting bed in spring and summer, securing a bottom heat of from 80° to 85° and 90°, and a top temperature of from 70° to 85°, and 5° to 10° more in sunshine, with abundance of atmospheric moisture, will no doubt succeed with these lovely plants, which are well deserving all such attention."

A few of the best varieties are *I. coccinea superba*, which still maintains its position as an exhibition plant; *I. Williamsii*, one of the very best of all, so free in flowering and has such large trusses; *I. Prince of Orange*, very distinct and fine; *I. floribunda nana*, valuable as a very free flowering variety in its young state; *I. Colei*, the best white; *I. Dixiana*, and *I. regina*. The last named is a new and splendid variety now being distributed by Mr. Bull, and of which the accompanying figure is a faithful representation. The plant is of dwarf floriferous

habit, the colour of the flowers being salmon suffused with violet. There are other very good and distinct sorts, which anyone can choose by looking at a trade catalogue.—D. L.

CAMPANULAS.

I READ with much interest Mr. Harding's article on Campanulas which appeared in your Journal a few weeks ago, and can fully endorse what he says respecting the usefulness and beauty of this class of plants, more especially some of the strong growers. I have tried one in particular, which pleased me and everyone who saw it. It is *C. Medium calycanthema*, blue and white. I sowed the seed about the middle of July last year, potted-off the seedlings, and grew them all through the autumn and winter, not letting them starve for want of pot room until they were potted into 11-inch pots about the end of March, using a compost of three parts good strong loam and one part good manure with a little sand. By the middle of June, when they commenced flowering, they made pyramids of 3 to 4 feet high, and 2 feet 6 inches in diameter at the base. They continued flowering until the last week of July. During that period I know of no plants more useful for halls, corridors, or the conservatory than these handsome Campanulas. They will propagate easily from eyes in the same manner as Hollyhocks are propagated in summer, which is a good plan for keeping the best varieties, as from seed a portion of the plants produce single flowers.—J. PITCHEES.

[We saw the Campanulas referred to, which were extremely effective.—EDS.]

TAKING UP AND STORING POTATOES.

MR. LUCKHURST, I must presume, is possessed of a sanguine temperament, which is perhaps inherent in a man of energy; and that he is a skilful cultivator and sound adviser none, I think, can doubt. A man who can laugh at the Potato disease, not only as affecting early varieties but also the main-crop sorts, must be listened to with respect on a subject on which he is so well able to speak.

As I have previously said, I have found no real difficulty in preserving my crops of early Potatoes from the murrain; but the late sorts, such as Paterson's Victorias and York Regents, have, I have always felt, been in a great measure beyond my control in the district of my experience. Mr. Luckhurst has made a worthy attempt to remove my difficulty on the early digging and thin storage question, but I am bound to state that his arguments lose force just in the ratio that they travel northwards. Your correspondent has in his last communication afforded tolerably good proof that cultivators on the Yorkshire flats and Lincolnshire levels have a difficulty to contend with that is much minimised, even if it is a difficulty at all, in the favoured vales of Sussex. I do not mean to suggest that no credit is due to a grower because he lives in Sussex and saves his crops; I only submit that the difficulty is so much the greater in saving the crops in a locality where they appear to be quite a fortnight later in ceasing swelling, and where the autumn rains do not postpone their visit until the Potatoes attain a marketable size.

According to the remarks on page 112 we may presume that Mr. Luckhurst's crop of Paterson's Victoria is lifted and stored. In that case he has almost certainly avoided the disease. But to have lifted the same variety in the locality where, I daresay, more Potatoes are grown in an area of five square miles than are produced in the entire county of Sussex, were to have secured a crop of "seed tubers" only, for by the second week in August they had not attained to a sufficient size for table use. That is the real difficulty—late ripening, and autumn rains occurring, not merely before the haulm has decayed but before the tubers of late sorts have ceased swelling. In the district to which I allude, unless sorts are grown which are ready for lifting before the grain harvest, it is practically impossible to give the necessary attention to securing them until the harvest is completed. Hence the safety of an important crop is unfortunately in a great degree a matter of chance: if the autumn proves fine all is well, but if wet much is lost. These remarks do not apply to a few sacks, or even to sufficient for the supply of one large family, but they apply to thousands of tons which are grown to feed the multitude of London, Manchester, Leeds, Bradford, and other large centres of hungry humanity.

But while I am conscious that the late ripening of the crops in the north is an impediment that does not occur to the same

extent in the south, I am also ready to admit that greater efforts should be made to save the crops, more enterprise should be exercised, and the habit of clinging to old customs should be relaxed to the securing of that important object. Hence I am glad that Mr. Luckhurst has endeavoured to show cause that his system is as applicable to Yorkshire as to Sussex, although he has not satisfied me on that point so well as he has satisfied himself. He has, however, made it plain that much may be done, and has given proof that many places—"gentlemen's places"—do not possess the conveniences desirable for making the best of a valuable crop.

That the crop of Potatoes is worthy of special care, even as well worthy of suitable storing houses as fruit is, I am quite convinced; but the difficulty is to convince others whose sanction is necessary for providing such proper means of storing the tubers. For years past I have given proof incontrovertible that Potatoes dug when the haulm is green and the skins not "set"—tubers which have just attained their full size but still unripe—ripen perfectly if properly stored, and become of equally good quality with tubers which had been left in the ground to ripen. I have also proved that the cropping quality of Potatoes so treated does not in the slightest degree deteriorate, because the same stock is fully as productive now as it was twenty years ago; yet notwithstanding I have never been favoured with suitable means of carrying out the practice on a scale commensurate with its importance, and have been obliged to make shift with such shelter as has happened to be within my reach; and I have often been obliged to see many tons of valuable food ruined when I have felt that much of the loss might have been averted by a different plan of treatment.

Leaving out altogether the question as to the period of taking up the tubers, immense loss is often incurred in the manner of storing. I am certain that if instead of the pernicious custom that is prevalent of placing the tubers in immense heaps to save covering material, if the necessary covering was liberally provided so that thin storing, at least for a time until the tubers were dry and carefully sorted, the gain would be great. It is of the greatest importance that the tubers should be stored dry and kept cool. Moisture and heat in combination are a primary source of disease. A large number of thatched hurdles or some such shelters, which would at the same time exclude wet and admit air, would be the means of saving much produce if the plan were carried out on an extensive scale, and the tubers were placed in narrow heaps or ridges.

It has frequently fallen to my lot to see Potatoes carted into immense heaps by the sides of stacks and buildings and covered with tarred rick cloths, and men, women, and boys have been engaged for weeks afterwards in "sorting" from a reeking mass of decay. How could it be otherwise? The moist tubers in such bulk could not fail to heat, and the cloths could not fail to prevent the heat escaping. Far better were it that the Potatoes were placed in thin narrow ridges, not wider at the base than the distance of a pair of cart wheels, and simply covered with straw, even if it did not exclude the wet. Provided Potatoes are kept cool, even if they are not dry, decay will not spread amongst them with a quarter of the virulence that it will in moist heated heaps. But covered hurdles placed over the Potatoes and not laid on them would be by far the preferable plan, and this suggestion of Mr. Luckhurst is well worthy of consideration; but the tubers of Paterson's Victoria do not cease swelling nearly so soon in Yorkshire as in Sussex, and immunity from disease in the north becomes proportionally lessened—all the more reason, your correspondent may suggest, that efforts to combat it should be the more determined and persistent.—A NORTHERN GARDENER.

AFTER the evidence given by Mr. Luckhurst on page 112, I think we cannot do wrong in lifting all varieties of Potatoes when the tubers cease swelling. On or about the 20th of July I began to think the crop was going, and having a special favourite among my exhibition sorts called Alpha, I lifted the entire row perfectly green, placing the tubers on shelves carefully. The skins were so tender they could scarcely be touched without rubbing them off. In three days the skin had set perfectly tight, and the tubers were firm, which gave me to understand that I had not done wrong. On the 6th of August I commenced in earnest, and lifted twelve varieties, consisting of Lord High Admiral and eleven other sorts, which may be termed second earlies. I never had a more happy day's work than in lifting these grand Potatoes, the rows of which were 30 yards long. There was not a speck of disease.

Among the most prolific is Early Vermont, which produced 14 stone per row; Porter's Excelsior, a grand Potato, 11 stone; Myatt's Kidney 9 stone. Next week I intend lifting King of the Earlies, Early Vermont, and others, although all the tops are green, and I would certainly advise all my friends to be up and doing, and try to preserve a crop, which is truly, as Mr. Luckhurst says, of national importance. One thing is next to certain, if the crops are left untouched until autumn the one-half at least will be lost.—R. GILBERT.

I CAN testify to the soundness of Mr. Luckhurst's remarks on the early lifting of the main crop of Potatoes. I think it behoves everyone who grows Potatoes to be on the alert and secure the crop, for from what I can hear and see many crops are becoming badly diseased in this county (Bedford). Both early and late kinds seem to be affected.

Perhaps it may be useful if I relate a case of early lifting of Potatoes in 1876. This was a plot of Regents. After a period of two or three weeks of hot dry weather the Potatoes in question were at a standstill, but after a fall of rain I could plainly see that a second growth was about to take place, so I determined on having the crop lifted, although the tops were as green as they well could be. Many people said that taking them up so early (July), with the haulm quite green and before the skins were set, was not the right thing to do. The skins may rub-off a little, but if they do they soon form another covering. The result of this early lifting was as follows:—The Potatoes were of medium size, and of good quality; in fact I could not wish for better quality, they were like balls of flour, and they remained so until the second week in July, 1877. I may remark that my neighbours who did not lift until late in the season lost more than half of their crops, and when planting-time came round some growers had not sufficient left for seed.

It is too common a practice when lifting late Potatoes to store them too thickly, whereby they become heated. They should be laid thinly and examined frequently. At the present time I am having all late Potatoes lifted as fast as possible with a view to saving them from disease, but owing to many men being in the harvest field I am having the tops pulled up and cleared away until such time as I can have the crop dug. The removal of the haulm will to some extent save the crop, even if the tubers are not taken-up for some little time to come.—G. R. A.

I QUITE agree with Mr. Luckhurst in raising Potatoes as soon as the tubers cease swelling. I once knew a farmer who dug-up all his Potatoes in August. The men employed were obliged to pick them all from the haulm. These Potatoes all kept well, but those left until the tops had died-down were scarcely half of them good. This is one instance out of twenty. We are taking-up our Victorias, Devon Reds, and Hundredfold Flukes.—J. P., *Devon*.

FALMOUTH FLOWER SHOW.

THE display, which was both extensive and attractive, was arranged in the Volunteer Drill Hall and a tent erected outside. Colonel Tremayne, the Rev. Thomas Phillpotts, Mr. M. H. Williams, Colonel Bull, and Mr. W. H. Lean exhibited large and beautiful collections of plants.

The Exhibition was very strong in high-class stove plants, the majority of which were sent not for competition. At the higher end of the hall nearly forty of the choicest specimens of the Carlews were effectually grouped by Mr. Palmer. Towering above all was a grand *Seaforthia elegans*, with other fine Palms extending on either hand. Striking objects in the centre were a large *Allamanda Hendersonii*, *Bougainvillea glabra*, and brilliantly coloured *Crotons*. The Rev. Thomas Phillpotts from Porthwidden sent an excellent collection, well arranged by Mr. Hogbin. The wealth of Pengerrick was exemplified in the best Gold and Silver Ferns in the hall, a good *Alsophila excelsa*, a *Gunnera scabra* with monster leaves and showing its curious fruit, and the freshest and largest *Todea superba* in the west of England. The cultivation exhibited in the collection was a credit to Mr. Thomas Evans, Mr. Fox's skilful gardener. Mr. M. H. Williams, Tredrea (gardener, Mr. Murton), was the only exhibitor of Orchids, and his specimens were greatly admired. Mr. W. H. Lean won close upon a dozen prizes, mostly firsts. In stove and greenhouse Ferns he ran Col. Bull very close, who exhibited the finest collection ever seen in the district.

The nurserymen supported the Exhibition admirably. Messrs. Curtis, Sandford, & Co. from the Devon Nursery, Torquay, sent twenty Roses, which had no difficulty in gaining the premier

prize. J. Hodge & Son, St. Anstell, had the best twelve Roses, and were placed first also for *Gladiolus*. Messrs. Mitchinson and Co. won the principal prizes for Dahlias, Asters, Cucumbers, collections of cut flowers, besides making a large display of blooms not for competition—Roses, Carnations, Geraniums, Fuchsias, Marigolds, Zinnias, &c.

The cottage gardeners made a capital display, the Cabbages and Onions being exceedingly fine. The small fruits were for the season good, particularly Red Currants. The Judges were:—For plants and cut flowers, the Hon. and Rev. J. T. Boscawen, Mr. W. N. Carne, and Mr. Marton (Tredrea), and Mr. Gill (Tremough). For cottagers' exhibits and fruit, Mr. Lobb (Devoran), Mr. Tyerman (Tregony), Mr. Hogbin (Porthwidden), and G. Palmer (Carlews).

PREPARATION OF FRUIT TREES FOR FORCING.

It is pretty well understood by those in charge of forcing houses that more depends on the treatment of fruit trees after the crop is gathered than on anything that can be done whilst the trees are actually carrying their crops. Especially are these remarks applicable in the case of Vines and other early-forced fruit trees, whose period of rest is, in the natural order of things, the time when root and branch should be in full activity and vigour. The different views held regarding the reciprocal action between root and branch at various stages of growth have long occupied considerable attention, and that is by no means so clear as it should be, if we may judge from the conflicting statements we read from time to time in the various horticultural journals. Whether the action of root and branch is simultaneous, or that the latter precedes the former, is to our own mind clear enough. It is fortunate that there is no dispute as to the union that exists between root and branch, and that we know that the one cannot exist without the other; and we think that the only rational view of the matter is that during the period of inactivity or rest the distribution of latent sap is less active, consequent on the want of propelling power after the fall of the leaf. What we wish to urge in the case of early-forced Vines and other trees is the difficulty to be encountered in working out, according to different circumstances, the natural growth inherent in each individual Vine or tree, and in settling how the future supplies encouraged by such growth are to be directed into the ordinary fruiting channels, and consolidated there in ample quantity to furnish food for the following season. We take it as an undisputed fact, that a Vine or Peach tree will yield fruit in proportion to the amount of healthy food that is concentrated in every individual bud and branch; therefore our efforts should be directed to the carrying-out of such measures as shall best attain the object we have in view. As before remarked, the great difficulty in this respect rests with very early-forced trees; for however unnatural it may be to change their winter into summer, they will yield submissively to the influence of heat and moisture; but it is quite another thing to impose upon them a season of perfect rest when the thermometer stands at 80° in the shade. From this point of view we regard the month of August as the most critical month of the year for early-forced trees. Vines are sometimes taken out of doors and covered with litter in order to retard them, and Peach trees may have the sashes removed from over them altogether; still there is the natural warmth and growth tending to excite against the unnatural remedies tending to retard. The one principle acts against the other, and the crops that follow are in proportion to the skill with which the two principles are managed. Vines, for instance, that are forced, however skilfully, to have ripe Grapes in March, become quite unmanageable in a few years, and will break away in the month of August, notwithstanding all the counteracting means that can be brought to bear upon them. Peach trees that ripen their crops early in May require careful watching lest the mild autumn weather should lead to premature excitement, which means the loss of all such buds as are unduly disturbed from their natural slumber before the proper time.

The principles laid down for our guidance in these matters are of such a nature that they cannot be applied to all cases alike; or perhaps we had better put it that the difference of circumstances renders the universal application of them impracticable. When early houses are so situated as to be influenced in some degree by their neighbours, such an arrangement aggravates the difficulty of inducing rest and consolidating growth. Warmed shallow borders, unless by the most complete arrangement in heating, are to be avoided as much as possible: the cure is worse than the disease, and of the two it

is sometimes the greater evil; for in order to avoid one extreme we are driven to another still greater. To escape the dilemma with anything like success a careful eye should be kept on the progress of root and branch towards maturity. Individual cases must be judged by their respective claims to our knowledge of their requirements. Healthy progress of root and branch will always go hand in hand. Healthy root-action, properly supplied from healthy sources, is sure to yield a healthy return in well-matured wood and leaves. Overfed or neglected trees are as easily distinguishable to the skilled cultivator as a declining patient is to a doctor. What we want is a full and natural season of growth; but we want the fruits of that growth properly directed and organised.

Vines and Peach trees require great supplies of water at certain times, but they also require that great discrimination shall be exercised in its administration. A Vine begins to make roots in earnest when the first tint of autumnal brown shows itself at the base of its young growth; and the supplies of water and other stimulants must be measured according to the health and age of the Vines, the condition of their roots, the state of the border they are growing in, &c., atmospheric moisture being supplied in moderate quantities at the same time. Borders are drenched, and Vines grow and swell and finish their crops; but is the benefit of all the labour entailed properly directed towards concentration, and do we organise all available strength as we should do into the fruiting spurs of another season? These questions are the great points of vital interest to be considered in preparing both root and branch for forcing. Worn-out Vines are often allowed to ramble as far and how they will in graceful pendant streamers. They have no tendency towards rectifying a disordered system or of centralising what little strength is left, nor will it add in any appreciable degree to the rooting power of the Vines for future crops—in fact, the contrary is our own opinion. We regard all growth except for fruiting purposes as superfluous, and superfluous growth we consider as over-taxation on an already enfeebled system. The Vine, being naturally of a travelling habit, will produce thickets of young wood annually; hence we see in many cases to what a mischievous extent attempts are made to combine the extension principle with a sort of semi-restrictive one. Young rods are encouraged to travel along the surface of inside borders, down back walls, or any other space at command where a young shoot can be encouraged, ostensibly for the best reason in the world—that of promoting vigorous root-action. Is this principle correct or not? and what facts have we to support it? Has the idea merely emanated from someone who may have succeeded beyond the region of his compeers, and ascribed his success to this principle of extension? We think the principle is deserving of no consideration whatever: it is mere conjecture, or something akin to it; its virtue is supposed to lie in its power to sustain and make roots. Well, but what about the ripening of them? We believe in the maturity of roots as well as of branches, and we can hardly strain our mind into the belief that growth made so far away from the influence of sun and light will ever mature roots that could survive the winter; and growth that is incapable of ripening its roots is practically valueless. And is it not also a gain to the Vine if by conserving wasted strength we can establish a more vigorous and fruit-producing power, and a tendency to health and longevity?

Our remarks are only intended to apply to certain modes of forcing, and to indicate how far we think certain means tend to recruit the failing power of trees which are supposed to have been reduced by early forcing and cropping. We say the full and natural development of all growth that can be exposed to thorough ripening influences is beneficial, and on the character that that growth may assume depends the future crop.

After the completion of natural growth the two main influences we have to study during the period of maturation are air and water; for heat we have the advantage of the all-powerful aid of the sun—a better agent than any artificial one we can employ.

Next to be considered is the co-operation of these influences; they must not be separated, but must work together towards one final end. Roots are formed according to the time and quantity of the feeding-power supplied, and if that be given in excess too late in the season the result will be the imperfect ripening of root and branch; whereas if the former is growing in a healthy border of adequate firmness and substance, and water is gradually withdrawn, a border will be secured of rich fibrous roots thoroughly ripened, which will serve as feeders

capable of supplying double the nourishment that could be expected from a less carefully prepared system of root-and-branch treatment.—W. HINDS (in *The Gardener*).

NOTES ON VILLA AND SUBURBAN GARDENING.

THE preparation of spring-flowering bedding plants should now occupy the attention of all who pride themselves on the gayness of their flower beds during the early spring months. Daisies, both the double white and pink varieties, bloom very early. They may be increased by offsets and dividing the roots. We generally divide and plant them at proper distances apart at the time of removing them from the beds in early summer, and they require very little more care than freeing them from weeds and occasionally watering; but where such has not been done, and they have been merely laid-in in masses, separate them at once and transplant from 4 to 6 inches apart. To perpetuate the different varieties of Pansies and Violas offsets and cuttings must be inserted now in a shady place. These are most useful for giving distinct lines of colour, and are very gay and free-blooming; but if distinctness is not required any quantity of plants may be raised from seed sown now. That pretty spring-flowering plant *Myosotis dissitiflora* is best raised annually from seed. Seedlings of it should now be transplanted, and old plants may also be divided; they then become sturdy and hardy to withstand the severity of the winter. Polyanthus in variety are also very gay, and from a packet of seed an immense number of varieties can be procured. Seedlings of these ought also to be transplanted now. The same remarks apply to Wallflowers, which are among the first plants to bloom in spring, and the perfume wafted in every direction by the wind is most delightful. They should be grown in all gardens and shrubberies. The plants ought now to be of good size, and be planted 9 inches apart in an open situation. The various kinds of *Silenes* should also be now sown. Beds of this annual when well massed together in the spring have a splendid effect. *Silene pendula* is the best for large beds, and the dwarf variety of it, *S. pendula compacta*, for small beds and pots. It is only by sowing early and having the plants strong that they flower sufficiently early to give place to summer bedding plants. The pretty annual *Collinsia bicolor* and other varieties of *Collinsia* are very desirable for spring flowering in herbaceous and mixed borders, as also are *Nemophila insignis*, *Saponaria calabrica*, and *Limnanthes Douglasii*. The *Saponaria* should be sown at once, the others towards the end of the month. The seed should be sown in drills a foot apart, and the seedlings be thinned out as soon as they can be handled. The plants then become sturdy and sufficiently hardy to endure ordinary winters. Golden Feather is sometimes used for colour, but it is not always to be depended on during the winter, though it is occasionally very bright and gay; the best plants are undoubtedly young seedlings. Many of the *Sedums* and the hardy *Sempervivums* used in summer carpet bedding can be used again in spring, and tasteful designs worked with them and spring-blooming plants.

Flower beds are now at their best. The carpet designs are well filled. All such that have a tendency to encroach on their neighbours must be pinched-in; bold but clear defined lines are necessary where designs are carried out. Go over beds of *Geraniums* and other flowers, and remove all faded flowers and set everything that may be out of place in proper trim, for neatness and compactness add much to the beauty of the flower garden.

"I cannot think what can be the matter with my Grapes; they were doing well, and all at once they appear to die off." Such are the expressions which have fallen from several of our amateur friends who have a small house or two and do not keep a gardener, but merely have "help" now and then. Nevertheless their small vineries afford them much pleasure and healthy exercise. From the description given to us of these Grapes we imagined they were scalded, and on inspection found it to be so. The very hot days we have occasionally had without sufficient air having been given early in the morning is the cause of it. With the houses closed up evaporation condenses on the bunches, and the berries become scalded. The only remedy now is to cut out all such with a pair of Grape scissors. Regulate the growths in these small houses, and do not let them become overcrowded or the wood will not ripen.

The work in the kitchen garden will principally be keeping down weeds and taking and storing Potatoes as they ripen, filling all ground as it becomes vacant with Coleworts, or sowing Turnips thereon if required. A sowing of Prickly or Winter Spinach should be made, and if Carrots are short a sowing of Early Horn or James's Intermediate will be found very useful for pulling while young. Celery will require attention; plenty of both clear and manure water is beneficial in promoting rapid growth. Some of the earlier-planted rows will require earthing. Tomatoes growing either in open beds or on walls must have the shoots stopped and thinned out. It is surprising how much more readily the fruit sets after all growths above the clusters

of bloom are pinched. Every facility should be given them to ripen their fruit before the dull days of autumn are upon us.—J. W. MOORMAN.

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

KITCHEN GARDEN.

We have again during the week had genial showers, which have been a great boon to us, as the ground was very dry and hard, which made digging and trenching a work of some difficulty. The 8th of August is said to be the proper day to sow the early *Cabbage* seed, the produce of which will be ready to cut in May and June next year. Our own seeds were sown on that day, but it is quite ridiculous that any date should be chosen in preference to another within a week of the time. The seeds are sown on a piece of ground that does not receive much manure, and we like to sow thinly. We have tried many different varieties, but no sort succeeds so well as the dwarf form of Early York, seeds of which are saved in our own neighbourhood. A true stock of Enfield Market is very desirable, as it hearts later. This year Wheeler's Imperial has been sown for trial with the others. It does not say much for our progression in raising new sorts of Cabbage when this same Early York was grown fifty years ago.

It is as well to make two sowings of *Cauliflowers*, as it depends somewhat on the weather as to which will turn out the best. The first sowing with us will be made about the time this appears in print, and again in the last week of the month. It would be rash to say that the above dates are right for other portions of the British Isles; still we would not care to sow before the middle of the month unless it was a good way north, as the *Cauliflowers* are apt to button when the seeds are sown too early in the month.

As there is now plenty of spare ground it is a good time to make a sowing of Prickly *Spinach* for furnishing a supply during the winter months. We know that the best *Spinach* is produced on rich ground, but when this late crop is grown too strongly it is more apt to suffer from severe frost. It is well if possible to sow a reserve piece on ground that is not so rich. The best winter *Spinach* we ever saw was grown on a border facing south and sheltered in all directions from winds.

The market growers are very busy planting Coleworts, Sprouting Broccoli, and in some cases a late crop of Savoys. The recent rains have been very helpful to the planters. Plants that were set out about three or four weeks ago are much strengthened by having the hoe worked amongst the plants, and where the plants are sufficiently advanced the rows are earthed-up with the draw-hoe. A sowing of Parsley may be made for winter and spring use. It is also a good time to make a sowing of Turnips for winter use. The plan about here with the market growers is to run the cultivator over the Potato ground and then harrow it, sowing the seeds broadcast, harrowing again, and running a heavy roller over the ground. Those who delight in American Cress should now make a sowing on a border under a wall facing west; this will stand the winter well with a little protection, and will come in useful in the early spring months. We shall very soon sow the Paris White Cos Lettuce in the open ground in rows a foot apart. Some of the plants will be thinned out, and will be planted in another place, enough being left in the seed drills for a crop. As the crops of different vegetables are gathered see that the refuse is removed to the rubbish heap at once and the ground hoed, the weeds being burned or in some way destroyed; or the ground may be dug, the weeds and refuse being buried.

VINERIES.

The Lady Downe's Grapes in the late house are now colouring, and have passed the stage when scalding of the berries is to be feared. The house will now be kept rather closer, and a temperature of not less than 65° will be maintained at night. It is well to see that the Vines have a thorough watering with manure water just at this time, and the surface of the border should be kept damp by frequent sprinklings. We have insisted on plenty of ventilation and other details of the work quite recently. We are not much troubled with wasps and bluebottle flies in this neighbourhood, still they did us much damage one season, and we had a supply of medicated bags which were recommended very much at the time by some writers in the horticultural press, but the bags did more damage to the berries than the flies and wasps, by rubbing the bloom off the berries, and also causing many of them to be attacked by mould. It was therefore necessary to be continually removing the bags to get at the berries. We would never use such bags again; better by far is it to keep the insects out altogether, and this can easily be done by nailing some hexagon garden netting over the ventilators.

ORCHARD AND PEACH HOUSES.

We continue to syringe freely, and will do so until the first fruits are nearly ripe. The trees in pots receive large supplies of water at the roots, and it is necessary to make sure that the

Peach border has a thorough watering—enough to reach the roots at the bottom of the border. The treatment in all other respects is the same as that recommended for late Vines. Red spider will not do much harm until all the fruit has been gathered; but there is more danger in this respect than used to be the case when Royal George was the earliest Peach, the others succeeded it so rapidly. We shall discontinue growing Early Rivers; it is an early Peach, but more than half the fruits have invariably split stones, and nearly all of them decay before they are quite ripe. This sort requires peculiar treatment, and might be well grown in a house by itself. Hale's Early is the best early Peach, followed by Early York, both sorts introduced from America. A house of these two would be a good speculation for the London market. Early Grosse Mignonne is a grand sort to succeed them before Royal George comes in. As soon as the fruit is gathered the garden engine may be brought into play upon the leaves; it will soon rid them of spider, but will not thoroughly destroy the Peach aphid.

Strawberries.—It may be as well to state here that, although we were late with the runners this year, the plants are now put out in the open ground, and we are busy potting all those intended to fruit in pots. The pots are placed on a hard bottom, and are freely exposed to sun and air. In potting we use good loam and rich decayed manure, in the proportion of three to one. The compost is pressed firmly into the pots with a wooden rammer.

PLANT STOVES AND ORCHID HOUSES.

We have still a number of specimen plants and Ferns that require repotting. We have not yet been able to do all our work just when it ought to be done, but we hope to have all the large and small plants repotted within a week from this date.

Dipladenias have been potted, using very fibrous peat and a portion of clean silver sand to aid in keeping the compost open. Of all the flowering plants adapted for stove culture there are none to surpass these beautiful twiners. The only difficulty that we experience with them is that of keeping the house sufficiently warm where they are growing. The temperature during winter ought not to fall below 70° during the day, nor 60° to 65° at night. The best of the *Dipladenias* do not succeed in the lower temperature, which is suitable for most of our other stove plants. *Dipladenias* are very much subject to be attacked by scale, and, what is much worse, mealy bug. The plants do not require a very abundant supply of water at any time, but during the winter season very little suffices. In potting it is necessary to drain well, and to place some tough peat from which most of the fibre has been removed over the drainage. The finest species is *D. Brearleyana*, a garden hybrid between *D. crassinode* and *D. splendens*. *D. crassinode* itself is a very beautiful species; its flowers are rose-coloured, and are a sufficient contrast to the large rich crimson blooms of *D. Brearleyana*. *D. insignis* is similar in character to the latter, but the leaves and flowers partake more of the character of *D. crassinode*. Another beautiful species is found in *D. boliviense*, with its white flowers and yellow throat produced in rich profusion. *Clerodendrons* are making strong healthy growth, and the best treatment is to train the growths near the glass, where they will have an opportunity of ripening well before the dark days of winter. Rich sandy loam suits *C. Balfourianum*.

Gleichenia spelunca is a most elegant species of Fern, and it succeeds well with us in the warm end of a plant pit. The plants now require repotting; we shall pot them in turfy fibrous peat, and the pots will be half filled with drainage before potting, as the roots of these Ferns do not descend into the pot to a great distance. Other Ferns requiring repotting will also be attended to. *Adiantums* succeed best when the compost is principally good fibrous loam with just a little fibrous peat. Indeed, we have been most successful with the beautiful *A. farleyense* when the potting material has been all loam and a little decayed stable manure. We have not grown the elegant *A. gracillimum*, but it has been stated that this species does best with the same potting material. *Davallias*, *Dicksonias*, *Pteris*, and *Gymnogrammas*, indeed most other species, succeed well when loam and peat are used together in equal proportions.

In the Orchid houses most of the plants are at rest, and no more moisture is applied to the roots or in the atmosphere than is necessary to maintain the plants in good health. Both the cool and Cattleya houses have a temperature from 60° to 65° at night, with the ventilators open a little, and not any heat from the hot-water pipes; with a little heat from the pipes, and closing the house early, the temperature in the East India house is about 70° as a minimum.—J. DOUGLAS.

TRADE CATALOGUES RECEIVED.

Henry Cannell, The Nurseries, Swanley, Kent.—*Autumn Catalogue of Plants, Bulbs, and Strawberries*.

Giles & Son, Grove Hill Nursery, Magill, Adelaide, South Australia.—*General Catalogue of Trees, Plants, and Shrubs*.

TO CORRESPONDENTS.

CONTENTS (R. C. Pilling).—No doubt the suggestion you make would have its advantages, but we found that the demand for advertising space on the front page was so great that we were pressed to remove the contents to some other part of the paper.

PLANTS FOR A GRAVE (Constant Subscriber).—Plant Rosemary, "that's for remembrance," and the Pansy, "that's for thoughts." Then Forget-me-nots, Primroses, Daisies, and Snowdrops will furnish a pretty constant succession of bloom. Don't plant sad funeral Cypressos and Irish Yews; they do not remind us of "the life to come" as those lovely flowers do.

BEECH TREE DYING (X.).—The tree has probably been in failing health for some time although you have not noticed it. We can only attribute its injury and death to the wet subsoil, which is particularly inimical to the Beech; indeed, Brown in the "Forester" states that the tree will not live long under such conditions as those you name. Possibly the roots may be in a natural cavity in the impervious lias bed and so have suffered injury, while the other trees are apparently healthy.

POTATOES SHOWN AS A VEGETABLE (T. B. R.).—The Potato is undoubtedly a vegetable, and may be shown in a collection of vegetables.

VINES, &c. (Y. S. M.).—The Black Gibraltar is the same as Black Morocco. The leaf you have sent is probably that of Isabella from the description you give of the fruit. You will find a good treatise on Pine culture in "The Pine Apple Manual," published at our office, and sent free by post for 2s. 8d. Your *Lilium eximium* is quite correct. It is dwarter than *longiflorum*. We will give you some information on *Tropaeolum* next week.

HEATING SMALL GREENHOUSE (A. B.).—We do not think the two lamps would give off sufficient heat to keep out the frost from a house 12 feet by 6 feet. Why not have an ordinary stove and carry a pipe from it to the outside? The fumes from burning kerosene are as injurious as those from any other heating material.

PLANTS FOR THE FLOWER GARDEN IN WINTER AND SPRING (X. T.).—It is somewhat late for sowing seeds of some of the spring-flowering plants, especially the various kinds of *Myosotis* (Forget-me-not), which should be sown about the last week in June; a little seed might however be sown now, and if the autumn prove mild plants sufficiently strong to afford abundant flowers may be had. Sow now *Saponaria calabrica*, pink; *S. calabrica alba*, white; *Silene pendula*, pink, and *S. pendula alba*; *Alyssum maritimum*, white; *Nemophila insignis*, blue; *Candytuft* (Iberis), crimson, white, and purple; the red and white Virginian Stock, and the yellow-leaved *Præthrum*. When the seedlings are large enough to handle thin them, picking some of them out into nursery beds, transplanting them thence into the flower beds when the autumn flowers are removed.

GRAPES SCALDED (C. T. D.).—As Lady Downe's Seedling suffers so extensively every year, and the other Vines in the house are not injured, the best advice we can give you is to train up an additional cane from the best of the other sorts and remove the rod of Lady Downe's entirely. This variety is very prone to have its berries scalded. The cause of the injury is not so much in the border as in deficient ventilation. Scalding usually arises from air not being admitted sufficiently early in the morning. As you do not appear able to manage this variety we should cut it down and occupy the space with a rod from one of the other Vines. (W. S.).—Scalding of the berries results chiefly from a viney becoming unduly heated by the sun early in the morning before the moisture which has condensed on the berries during the night has evaporated. As a preventive of scalding, vineries should not be damped too late in the afternoon; a chink of ventilation should be left at the top of the house all night, and additional air should be given very early in the morning—the moment the thermometer in the house commences rising.

CUCUMBER FOR WINTER FORCING (Grains).—Telegraph is an excellent variety for growing during the winter. There must be no delay in sowing the seed or striking cuttings. Many growers fail by commencing too late. Smaller varieties, which are esteemed by many, are Lord Kenyon's Favourite and Munro's Duke of Edinburgh.

FUCHSIAS NOT THRIVING (A. R.).—We cannot account for the leaves and flower buds dropping off as they do, except that you probably have made the compost too rich, or they received a check in moving them from a Cucumber frame to a cool greenhouse. The best compost is turfy loam five parts, leaf soil one part, decayed manure one part, and sufficient sand to keep the compost open.

FIGS NOT SUCCEEDING (J. B. J.).—Figs never do well under the shade of Vines; and the fact that your first crop is good and the later crop indifferent suggests that the Vine leaves have an injurious effect as the shade becomes more dense.

CARRION IN VINE BORDER (Idem).—We fancy the Vine doing so well where the pigs are buried is not attributable to the pigs. You will not find any live roots amongst or near the carrion; the roots must have wandered somewhere else. Plant two Black Hamburg Vines in a border at the same time, treat both alike, and it does not follow that they will be the same two or three years hence; very likely the one may be much stronger than the other.

NEW AQUILEGIAS (M. R.).—*Aquilegia cærulea hybrida* and *A. californica hybrida* will probably be distributed by the Messrs. Veitch of Chelsea in the form of plants during the ensuing autumn. They have also a stock of *A. lepoceras lutea*, which is the same plant as *A. chrysantha*.

PROPAGATING REUS COTINUS (H. G. M.).—Layer the shoots at the present time, previously notching or tonguing them, and in due time they will emit roots. The flower sent may be one of *Lycasteria formosa*, but it is too fragmentary for us to decide with certainty.

WINTERING BEDDING PLANTS (N. J. M.).—If you will send a list of the plants you purpose preserving in cold frames we will state which of them we consider may be wintered in such structures.

SERVICE TREE (E. A. White).—You have been rightly informed that the fruit of this tree makes very good jam, but it is, of course, quite a matter of taste as to its equalling Guava jelly.

VEGETABLE MARROW FAILING.—ANTS (A New Subscriber).—The roots have probably penetrated the manure, and you water too much. Sprinkle guano over the nests of the ants, and repeat the sprinkling until they emigrate.

ROSES (Tyro).—It is very difficult to give reasons for the failure of certain plants when we have not seen those plants. Charles Lefebvre, Alfred Colomb, and Fisher Holmes are not good varieties for pot culture. Plant these in the open ground. This month is the best of all others for planting out Roses from pots. They get established before the winter. Peter Lawson is a small dark velvety Rose, and rather a weak grower. We do not know *Triomphe*

d'Amiens. Perhaps Rev. W. F. Radclyffe can describe it. *Blairii* No. 2 is not suitable for growing as a standard. It is a climber, and should be left like a Banksian to roam at will wherever and in any way it chooses.

AUTUMN-SOWN ONIONS FOR EXHIBITION (H. S. F.).—The seed should be sown the second or third week in August. The ground should be trenched 2 feet deep, or as deep as the soil will admit without bringing up any bad soil, though if the bottom soil be bad it is well to loosen it. A good manuring should be applied, mixing it well with the soil, the manure being thoroughly decomposed. The ground should be made firm, and the seed sown in drills a foot apart. When the plants have a pair of leaves thin to 2 inches distance apart, and keep clear of weeds, stirring the soil between the rows. To avoid the maggot, when the plants show the second leaf water overhead with paraffin water—a wineglassful to three gallons of water, stirring well up; let stand twelve hours, then stir again, and after standing another twelve hours skim off the oil from the surface, watering the plants with the clear or skimmed water only. This may be repeated in the early part of April, May, and June respectively. In March you may remove every three plants, leaving the fourth, planting them in well-manured deeply trenched ground in rows a foot apart, and 9 inches apart in the rows, the ground being well firmed before planting. All that is wanted is to water until established and to keep clear of weeds. A sprinkling of soot may be given every month, commencing with March and continuing until June, applying in such quantity as just to blacken the surface, applying guano between the soot applications at the rate of 2 lbs. to 30½ square yards, which will cause the manures to be applied at fortnightly intervals. If the weather be dry at the time of applying the manures they should be given in liquid instead of solid form—one peck of soot to thirty gallons of water, and 2 lbs. guano to the same quantity of water, the watering to be at the rate of one gallon per square yard. Sow Giant Rocca.

TACSONIA VAN-VOLKXEMI.—"Franklin" would be glad to be informed where he could see this climber flowering in the neighbourhood of London.

VEGETABLE MARROWS IN MARKET GARDENS (A. M.).—Holes are made to receive the manure, which is stable manure, or sometimes an admixture of stable and cow manure, and two plants are planted on each station.

CUCUMBERS DISEASED (C. W. Major).—The soil is too rich and too moist, and the temperature too low.

STRAWBERRIES WITH LEAVES CUT OFF (N. J. M.).—If the crowns are injured, the plants being young, they will soon form young leaves, and the plants will be none the worse on account of those they have lost. It is a practice with some persons to cut the leaves off with a scythe after fruiting, but we do not approve of the practice. You cannot do anything to help the plants.

PHYLOXERA ON VINES (Capt. Paul).—We have had rather too much experience with this pest, and are truly sorry to hear that it is widely distributed in the British Isles. It has twice appeared in our Vines, and each time it has been stamped out by destroying the Vines, root and branch, and carting away the soil where it could not do further harm. We advise you to do the same. As your Vines are young the loss will not be great. A friend of ours had it in a viney of young Vines. The *Phylloxera* appeared on one Vine in April; he thought it a pity to destroy all the Vines, and had the affected plant removed with all the soil in contact with its roots. The rest of the Vines grew well, and he was satisfied that he had destroyed the pest. However, early in the following year he thought he would examine the roots of the Vines, and to his surprise they were a moving mass of *Phylloxera*. This time he wisely destroyed the whole of the Vines, and truly glad he was that the pest did not spread to other houses a few score yards distance. We earnestly advise you to exterminate the pest by destroying the Vines.

DESTROYING WIREWORM (A. N.).—Dress the ground with gas lime, one peck (level measure) per square rod, distributing equally over the surface, it being best applied in autumn and forked in. The ground should be forked over again so soon in spring as the ground is in working order, and again before putting in the crop. It will drive them away if not destroy them. Many may be destroyed by baits of Carrots or Potatoes buried in the soil 1 to 2 inches deep, which should be examined daily, and the wireworms that have penetrated the baits destroyed, re-inserting them in the soil. If the baits have a stick thrust through them, so as to serve as a handle, they are more readily taken up and examined.

NAMES OF FRUITS (St. Bridged).—It is a difficult matter at any time to name Strawberries unless they are seen growing, but the three you sent were quite smashed, and therefore it was impossible to do so.

NAMES OF PLANTS (W. M.).—1 is *Cunninghamia lanceolata*; 2 we cannot name without seeing the flowers. Neither is hardy. (*B. Smyth*).—*Eccremocarpus scaber*. (*A. O.*)—*Lysimachia thyrsiflora*. (*J. P.*)—*Aloe variegata*.

POULTRY, BEE, AND PIGEON CHRONICLE.

A BATCH OF SCHEDULES.—PART 2.

WE have again received several schedules, some of them showing much improvement since last year and others none at all, while some are fresh in their new birth. Of the latter perhaps Ramsgate claims the earliest attention. Everything on the first page is "very swell." There are correspondents in Paris and Boulogne, there are to be especial boats from and to Boulogne, and a private wire will be laid into the Show yard. This is pretty fair for one page, but unfortunately the nominated Judges seem to have had the wrong duties allotted, for we find Mr. Esquilant put down for poultry and Messrs. Teebay and Hewitt down for the Pigeons. The other poultry Judge, Mr. Tegetmeier, is fully at home in either section. On the second page we find a noble President, seven lady patronesses, eight county patrons, and sixteen local ditto; and then on the next sheet we come to the rules—there are thirteen of them. Some of them are very much as usual, and others of a novel turn—e.g., Rule 4 tells us that the post-card which acknowledges the safe arrival of the entries will also admit the bearer free. This we entirely approve of, and consider a good rule and a saving of future trouble to both exhibitor and Secretary. Rule 5 tells us of an Hon. Sale-master, which we never remember to have seen before.

Rule 7 says all birds in the Sale classes must be in separate baskets, which is also thoughtful; but rule 8 is very important to exhibitors. We give it in full—"No third, fourth, fifth, or sixth prizes will be paid in classes in which there are less than six, eight, ten, or twelve entries respectively; and in classes in which more than two prizes are awarded to one exhibitor the two largest only will be paid, and when a cup is awarded the first money prize in the class will be withheld." The early part of this rule in our opinion takes off all the glory of the many prizes per class, and will prove a serious impediment, we fancy, to entries; and then finally a part of rule 11 is excellent—viz., "tops and backs of Game pens will be canvassed to prevent injury to the birds." We turn over the page and come to the classes. Partridge, White and Black Cochins all compete together, Game Bantams have one class only, Black Rose-combs none at all, and class 51 has a special cup given by Col. Shakespeare for the best pair of black-legged table fowls, which entirely upsets the world-wide-known fact that white legs should be aimed at for table chickens. There is a class too for Black Ducks, which will consequently include the Cayuga as well as the East Indians.

After this we come to a little Show which is to take place in connection with the Shirley (Southampton) Horticultural Society. This we hear is put out as a feeler to see if a show on a large scale would be supported at Southampton in the winter, and we should imagine it would. Chesham follows in a violet cover, which is rather a humdrum list, and only has the novelty of the Game being obliged to be undubbed. We come next to Aylesbury, which has had a total *bouleversement* in its classes. Unfortunately it clashes with Weymouth, Ipswich, and other shows, which with the new classification will not, we think, improve the entries. Single bird classes have come into operation here, and the Committee have been foolish enough to sweep away all the third prizes. The first prize now is only 30s., and the second 10s., and as the entry fee is still 5s. we cannot see much improvement. Pigeons and Canaries have been added, with a 15s. first prize and a 5s. second. On the whole we think the old schedules were much the best, and here is a case of so-called modern improvement without much chance of good results. Weymouth falls on the same day, and is a good schedule; but again the difference between the first and second prize is wholly disproportionate. The classes are numerous, the prizes are for chickens, and most varieties have classes for single birds. We only regret that Ipswich will clash, for though the latter schedule will probably be very good, Weymouth, Aylesbury, and others must injure the number of their entries.

Whitwick and Newbury again clash on August 21st. The former is a fair schedule, with classes for single birds of any age and some good local classes, which we highly approve of to increase the cultivation of birds in the district. Their Judges are Mr. E. Hutton and the Rev. J. F. Hodgson. Newbury is also much changed in its schedule. The first fourteen classes are now for old birds only, while chickens have seven classes. This Show is always well managed, and deserves support. Mr. W. J. Nicholls is to award the prizes, as he did at their last meeting.

Sandy holds its horticultural meeting and poultry show on the last day of this month. The classes are for chickens, which have four silver cups to compete for. There are 30 Vice-Presidents, 18 Committeemen, besides 43 district Committeemen, 2 Secretaries, and 870 subscribers. We heartily congratulate the Society, and shall expect to find next year an improved schedule as far as poultry are concerned. Next follows Henley-on-Thames, which is printed on a huge sheet, in the centre of which a Spanish cock, a Cochins cock, and a Dorking cock surrounded by Turkeys, Geese, and Pigeons, are apparently enjoying the most charming peace in the same farmyard. Would that our own cocks agreed so harmoniously as these appear to do. Mr. Nicholls here judges the poultry, and Mr. Baker of Kew Bridge the Pigeons. There are no Committee published in the schedule. The local prizes are fair, and we are told that they are confined to a circle of five miles, and that the winning pens of the first or second prizes are disqualified for the local prizes. The Northamptonshire Agricultural Society this year passes its boundaries, and meets in Leicestershire, at least we were taught that Market Harborough is in that county. The Committee comprise six well-known men, and the schedule is improved, inasmuch as three prizes are now given in all the classes. The Hon. Sec. still resides at Weedon, and is Mr. J. M. Lovell.

This ends our batch of schedules for this week. More will be noticed in due time, and the next batch will probably comprise many famous shows which are soon coming on in the metropolis and elsewhere. We wish the managers of shows would try to study each other's interests more, as the present plan of three or four of our best shows in one week must prove disastrous to one or two of them.—W.

MALTON POULTRY, &c., SHOW.

This Exhibition was held on the 9th inst. in the Lodge Grounds by the kind permission of Capt. Copperthwaite. The

schedule was well arranged, for the classes were numerous, though the prizes were not very large; but the entry fee was a low one. There were classes for *Silkie*s and *Cayuga Ducks*, which are not generally found in most schedules. Mr. Dixon awarded the prizes, with help from Messrs. Ferguson and Temple, and their awards were well received. The *Hamburghs* were of excellent quality, Mr. Beldon's Golden-spangled hen being of good quality, as too were the first *Silver-pencils*. Buff *Cochins* were very good, the prize pens of Mr. Sidgwick and Mr. Proctor were of much merit. A good pen of *Houdans* won also in their class, and the prize *Polands* were of great quality. The first-prize pen of *Silkie*s were well clawed, and the hen had a large crest, but being adult birds were a little out of feather. The winning Game *Bantams* were capital birds, shown in fresh condition and smart in carriage. There was a class for chickens of the year, but there had to be three birds in a pen, which rather militated perhaps against the number of entries. The *Waterfowl* were excellent. The first *Aylesburys* clear in bill and large in size. *Geese*, too, and *Turkeys* made a fine display. There was, moreover, an excellent class of *Guinea Fowls*.

The *Pigeons* were the most noticeable for the ample classes which were furnished, there being classes for Spots, Nuns, Archangels, Trumpeters, &c., in addition to the ordinary classes for the more cultivated breeds.

There were also six classes for *Rabbits*, where the competition was large for the prize money offered, and the quality good. These were judged by Mr. Lamb. We furnish the list of poultry awards below.

POULTRY.—GAME.—*Black Red*.—1, W. Rudd. 2, E. Wharton. *Brown Red*.—1, W. Rudd. 2, J. Cass. *Any other variety*.—1, W. Rudd. 2, J. E. Crofts. *SPANISH*.—1, J. Hwesh. 2, J. Powell. *HAMBURGH*.—*Gold-spangled*.—1, H. Beldon. 2, Holmes & Destner. *Silver-spangled*.—1, Fawcett & Anderton. 2, G. Waite. *Gold-pencilled*.—1, H. Beldon. 2, G. Snell. *Silver-pencilled*.—1, E. Snell. 2, G. Waite. *BRAMA*.—*Dark*.—1, G. W. Henshall. 2, H. Beldon. *Light*.—1, G. Pounder. 2, J. Birch, jun. *COCHINS*.—*Buff or Cinnamon*.—1, G. H. S. Rawson. 2, C. Sidgwick. *Any other variety*.—1, G. H. S. Rawson. 2, G. W. Henshall. 3, F. H. Stericker. *CREVE-CEUR*.—1, O. E. Wise. 2, J. Mackwell. *POLANDS*.—1 and 2, H. Beldon. *FARMYARD CROSS*.—1, G. Robinson. 2, A. Russell. *CHICKENS*.—1, G. Garbutt. 2, T. Greenhalgh. *SILKIES*.—1, Rev. R. S. S. Woodgate. 2, Master R. L. Russell. *BANTAMS*.—*Game*.—1 and 2, W. F. Entwistle. *Any other variety*.—1, H. Beldon. 2, H. Hainsshaw. *ANY OTHER VARIETY*.—*Chickens*.—1, C. Sidgwick. 2, R. P. Hockley. *GUINEA FOWLS*.—1, F. G. S. Rawson. 2, Holmes & Destner. *DUCKS*.—*Rouen*.—1, F. G. S. Rawson. 2, G. Garbutt. *Aylesbury*.—1 and 2, E. Snell. 3 and 4, T. Sody. *CAYUGA*.—1 and 2, Mrs. Coulson. 3, T. Pierson. 4, W. Marshall. *Any other variety*.—1, T. P. Carver. 2, T. H. Chambers. *GEESSE*.—1, G. Pounder. 2, F. G. S. Rawson. 3, Miss Watson. 4, E. Snell. *TURKEYS*.—1, J. Moorey. 2, F. G. S. Rawson. 3, Mrs. Jordan. 4, Mrs. Harriman. *SELLING CLASS*.—1, J. Cass. 2, J. Newall.

DRIGHLINGTON POULTRY SHOW.

THE annual Show was held at Drighlington on the 12th inst. Turner's pens were used, and arranged in the open air. In numbers the entries were very good. In poultry *Spanish* headed the classes with good pens, the first old and second chickens, *Dorkings* being placed in the same position. *Cochins* and *Brahmas* were very good in both cases. *Game* were not as numerous as we have often found them here. In the first class *Brown Reds* were first and *Black Reds* second. The best cock was in pen 1, but the hen was badly duckfooted. In the next two classes *Duckwings* and *Piles* won the prizes. *Hamburghs* were poorly represented as to numbers, but were very good. In *Game Bantams* first were a pair of *Duckwings* and second *Pile* chickens, and in the *Variety* class *Black* and *Silver Sebrights* won. *Geese* were a splendid class; the whole were *Toulouse*, and every pen very large and good; the *Ducks* in all the classes being better than ever we have found them in this quarter, which boasts of its aquatic birds.

Pigeons.—In *Carriers* first was a *Black Hen*, recently hurt and bleeding much, but far a-head of the rest. *Pouters*.—*Blue* first and *Whites* second. *Almonds* third. *Any other Tumblers*.—First a *Short-faced Blue Bald*, second an *Agate*; and there were some capital *Black Baldpates*. In *Barbs* first was a *Yellow* cock and second a *Black*. Antwerps a moderate class, a handsome *Dun Short-face* being put first. In *Turbits* the first was not in good feather, but was a grand *Blue*, and second a *Red* hen. *Jacobins* good, two *Reds* winning. *Owls* were but poor. In the *Variety* class first was a *Fancy Swallow*, second a *Red Magpie*, and third a *Blue Dragon*.

A few *Rabbits* were exhibited, but the prizes were poor in these classes. *Himalayans* a moderate lot. The *Variety* class was a very good one. The first, a *Silver Cream*, was excellent; extra first an *Angora*, second a *Silver-Grey*, and extra second a *Black Dutch*.

POULTRY.—*SPANISH*.—1 and 2, J. Powell. *DORKINGS*.—1, J. A. Walker. 2, J. Rawnsley. *COCHIN-CHINA*.—1, J. A. Walker. 2, C. Sedgwick. *BRAMA*.—*Pootra*.—1 and 2, W. Schofield. *Any other variety*.—1, J. A. Walker. *GAME*.—*Black-breasted* or *other Red*.—1, W. Schofield. 2, H. C. Mason. *Duckwinged*.—1 and 2, W. J. Mason. *Any other variety*.—1, E. Walker. 2, J. J. Mason. *HAMBURGH*.—*Golden-spangled* or *Silver-spangled*.—1 and 2, J. Rawnsley. *Gold-pencilled* or *Silver-pencilled*.—1 and 2, J. Rawnsley. *Black*.—1, J. Rawnsley. 2, C. Sedgwick. *ANY OTHER VARIETY*.—1 and 2, J. Rawnsley. *SELLING CLASS*.—1 and 2, J. Rawnsley. *BANTAMS*.—*Game*.—1, F. Holt. 2, R. Swales. *Any other variety*.—1, J. Grashon. 2, J. F. Crowther. *GEESSE*.—1, J. A. Walker. 2, J. F. Crowther. *Any other variety*.—1, J. A. Walker. 2, J. F. Crowther. *DUCKS*.—*Aylesbury*.—1 and 2, J. A. Walker. *Rouen*.—1, J. J. Pollard. 2, J. Newton. *Any other variety*.—1 and 2, J. A. Walker. *PIGEONS*.—*CARRIERS*.—*Cock or Hen*.—1, J. Booth. 2, J. E. Crofts. *POUTERS*.—*Cock or Hen*.—1 and 2, J. E. Crofts. *TUMBLERS*.—*Almond*.—*Cock or Hen*.—

J. E. Crofts. 2, G. S. Burton. *Any other variety.*—Cock or Hen.—1, B. Rawnsley. *vhc*, J. Oldfield (2), J. Thresh, G. S. Burton. *BARBS.*—Cock or Hen.—1, W. Rudd. 2, J. Thresh. *vhc*, J. E. Crofts. *ANTWERPS.*—Cock or Hen.—1, W. Firth. 2, T. Milner. *vhc*, W. Rudd, B. Rawnsley, W. Firth. *TURBITS.*—Cock or Hen.—1, W. Rudd. 2, T. E. Hainsworth. *vhc*, W. Rudd, G. S. Burton, T. Milner, B. Rawnsley. *FANTALS.*—Cock or Hen.—1 and 2, T. E. Hainsworth. *JACOBS.*—Cock or Hen.—1, J. E. Crofts. 2, G. S. Burton. *vhc*, B. Rawnsley (2). *TRUMPETERS.*—Cock or Hen.—1, J. E. Crofts. *MAGPIE OR SWALLOW.*—Cock or Hen.—1 and 2, J. E. Crofts. *WILD.*—1 and 2, J. E. Crofts. *OWLS.*—1, J. Thresh. 2, T. E. Hainsworth. *ANY OTHER VARIETY.*—Cock or Hen.—1, J. E. Crofts. 2, W. Rudd (2).
RABBITS.—*LOP-EARED.*—Buck or Doe.—1 and 2, R. Murgatroyd. *HIMALAYAN.*—Buck or Doe.—1, T. Hart. 2, R. Murgatroyd. *ANY OTHER VARIETY.*—Buck or Doe.—1, J. Firth. 1 and 2, Burton. 2, W. Wailes. *vhc*, J. Firth, R. Murgatroyd. *Point Prize*, J. E. Crofts.
CATS.—Male or Female.—1, S. A. Bell. 2, J. Cooper.

JUDGE.—Mr. E. Hutton.

THE LOP-EARED RABBIT.

THERE are several theories as to the origin of this the king of the Rabbit tribe. The two most probable are, that it is a native of Persia and has been imported into this country, and that it is merely an improved strain of the common Prick-eared Rabbit. We are inclined to the former idea, although there is no doubt that it has been greatly improved in this country, as shown by the fact that a few years ago 22 inches across the ear was considered excellent, and 23 impossible, and that now 23

from tip to tip was at one time—not many years ago—thought excellent, and anything over 21 very good. Now 22 and 22½ are thought decidedly good, and 23 and upwards first-rate. Twenty-three and three-quarters and 23½ are about the best lengths at present being shown. We remember seeing at a show in the neighbourhood of the Edgware Road, a gallant Lop 24 and, we think, one-eighth, in length. The Rabbit was certainly a beauty, but the measuring was a little strong, as the Rabbit, if shown since, has certainly not been credited with such prodigiousness. Still the length was, no doubt, 24 inches, and if we recollect another was shown in the opposite corner of London about the same length a few months afterwards. These figures show plainly that very rapid strides have been made in this particular. Length, however, is not all. Breadth must also be looked to, and although an improvement has certainly taken place lately, no such rapid strides have been taken as have been done in the length. The quality of the flesh of the ear should be very fine and thin. The outside of the sheets, for they can be called nothing else, are covered with a meagre covering of short hair, but the inside is quite devoid of hairiness, the skin being clean and smooth, only disturbed by the veins which course down and in which the pink of the blood can be plainly discerned. The fall or carriage of the ear used to be a question of vast importance, as indeed it is now, only that the enormous weight generally drags them down into the correct position or something like it. They

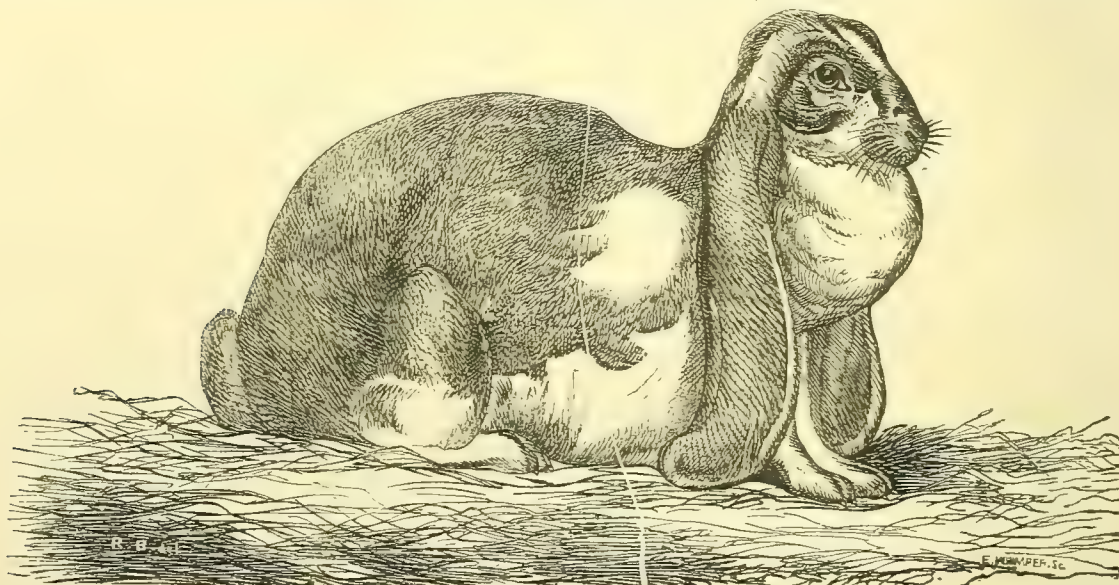


Fig. 32.—THE LOP-EARED RABBIT.

and a fraction is common, and 24 has been managed two or three times.

The points of the Lop are very easily described, although they are not so easily attained. We will take a full-grown specimen and run through its points, afterwards dealing with colour and markings.

The body should be firm and strongly set, with a decided fall at the shoulder and rise at the hip, so that when an animal is in a reclining position the hinder portions of the back are much higher than the head. The "carriage" of a Rabbit depends to a great extent upon its deportment in this respect, a long-bodied and flat-backed specimen being considered decidedly inferior. The hind legs should be long and bony and nearly twice as long as the front ones. These latter should in youthful animals be straight and nearly parallel, although if they are a little banded in an old and well-fleshed specimen, it is, perhaps, not a great drawback. The legs should, however, be straight when young or not fleshy, any crookedness being a decided disadvantage.

The head should be of good size and the forehead prominent, the eyes set well apart, and the nose fairly pointed. The eye should be firm, full, and well set. The colour will be dark, brown, or blue, the latter being, perhaps, the most common.

The ear is the most important organ of the Lop, and hence it has been more or less tampered with from time to time—stretching, pulling, and working having been all called into use at one time or another, but with very little effect. It is certain that if the ears of a half-grown Rabbit be worked carefully and regularly before a steady fire the effect will be to slightly lengthen them; but the best specimens shown are those that have long, broad, and natural ears, and not long and narrow. The first point of excellence is in the length. As already stated, 22 inches

should fall well from the roots, and be of equal declension on both sides. The inside of the ear should fall towards the cheek, leaving the outside or the hairy portion only visible when standing in front. The great length of the ears generally causes them to drag a little on the ground, causing them to be drawn a little out of the correct position and causing the ends to be bent back. The chest of a good well-conditioned Lop is full and prominent, something like that of a Pouter cock, and the skin being loose and so full of fat that it causes a perfect resting place for the chin, and adds materially to the animal's appearance. It is called the dewlap. It seldom makes its appearance till after the Rabbit is a twelvemonth old, or quite full-grown. Other positions of the ear beside the full lop used to be known and to give trouble, including the horn lop, in which case the ears fell over the face in a most unsightly manner, almost blinding the animal and presenting anything but a pretty appearance. Scarcity generally conduces to value, but in this case, although the appearance was very rare, it has never been liked. Another appearance was the half-lop, which was divided into two kinds, and one in which the ears both fell on one side of the neck, and the other in which one ear fell and the other stood erect. Another position was the ear-lop, in which case the muscles of the ears were too strong to allow them to fall, and then stood out on either side of the head like the ears of a boat. This last form was very common, and is often found in bucks of considerable physical power.

Colour is an important feature of the Lop. If a self-colour, it is purely a question of taste whether black, blue, grey, fawn, or white is liked the best. Grey used to be disliked very much, but fanciers are not so fastidious now-a-days, and if a Rabbit's points are otherwise good, a little fall-off in the respect of taste

will be allowed to go by unchallenged. If a broken-coloured, the back or saddle should be wholly of the dark colour without any white hairs. The head should be pretty dark, and the ears quite so. The markings of the head, as of the body, should be regular, and sometimes the face presents a very pretty appearance. The various forms of smuts are all pretty, but the butterfly smut is the prettiest of all. At one time the head markings were thought a great deal of, but now all has given way to the ear rage.

The Lop is not very prolific, nor is the doe quite as good a mother as some of the other breeds; hence nurse does are generally used, Dutch being the commonest and the best. In disposition they are a little spiteful often, and are not very good pets. As they are very delicate and require a great deal of extra care, they are not the best breeds to begin with.—GETA.

FANCY PIGEONS AT THE BRITISH MUSEUM.

WHEN recently in London I went to the British Museum to inspect the new acquisitions in sculpture from Ephesus, and having gazed my fill upon the wonderful chiselled stones of the temple of the great goddess Diana, which not only St. Paul might have seen but must have seen, I not unnaturally took a turn among the stuffed birds, admiring the admirable manner in which they are "set-up"—so life-like, so true to nature as eye and attitude; particularly is this the case with the Raptores. Along the wall the specimens are wonderful, but perhaps the very best and most striking is the Eagle Owl or great Horned Owl, which stands out clear towards the centre of the room. The bird is standing in the attitude of anger or combat, almost every feather separated and erect. This is a marvel in the art of taxidermy. Going on further I sought out the Columbidae, and the foreign varieties are excellent, but on searching for the English fancy Pigeons I was grievously disappointed. Up in a corner, high up and not easy to see, are a group of mere objects—bad specimens of fancy Pigeons to begin with, birds that would never take a prize in the smallest show. Then, in addition, they are wretchedly stuffed, evidently by an artist in taxidermy who had no idea of the points of fancy Pigeons. Their condition is not good either. They more resemble the class of stuffed birds one sometimes sees at a country auction. Apparently they are very old as well as very inferior, and wholly unworthy a place in our great imperial, for it is more than national, for it is not the English but the British Museum. I saw a red Jacobin, long-beaked and badly filled, with wrong eyes and the not only low cut—that might not be objected to by some—but with a dash of white going down the neck. A strange-looking bird is marked as "a Horseman." There are Tumblers not Tumbler-shaped; indeed, the whole group, happily half hidden in a corner, are unworthy of their names and place. Now that we have more than one admirable Pigeon artist it would be easy surely to stuff birds according to the pictures given by Mr. Harrison Weir or Mr. Ludlow. I think it is a matter of much regret that fancy Pigeons should be so badly represented in the British Museum. The ornithological authorities cannot be ignorant that at the Crystal Palace there have been for years exhibitions of fancy Pigeons of singular beauty of form and feather, and while the Museum gathers the best of all kinds and varieties of birds, it is hardly right therefore that so beautiful a class should be so miserably represented, and that the British Museum should be so behindhand. These specimens were collected probably in days when a Jacobin was a Jacobin and that was all, and few cared or knew about superior specimens or in what superiority consisted. Now it is all altered, and I should like that admirers of Pigeons should be able to go to the Museum to see good birds properly "set up." There would be no difficulty, for the very best Pigeons are from their delicacy frequently dying, and their skins could be procured.

As a contrast to the stationariness of the British Museum I must notice the advance of the London bird shops. I took a stroll through the Seven Dials and some other localities where Pigeon shops are to be met with. In most of these there is a marked improvement upon the mongrels formerly to be seen. Even fair Pouters are in cages for sale. Evidently the sweepings of good lofts come into the bird-dealers' hands now, and not merely birds to be sold so much a dozen as Blue Rocks. The mark of progress in the fancy is shown now very generally in both London and provincial bird shops. Better poultry, often capital Bantams, Pigeons of a higher class, and Canaries much superior to the very common sorts seen in dozens in former years. I can only hope that improvement will in due time reach the British Museum.—WILTSHIRE RECTOR.

APIARIAN EXPERIENCES IN 1877.—No. 2.

I FORGOT to mention that I had given the bees of my strong stock five sectional supers (Abbott's pattern) about the 16th of May, in the hope that they would fill it with apple-blossom honey. They took to it in force, almost occupying its whole length; but, owing to the wretchedness of the weather, all they

did was to make two small bits of comb up to the time of their swarming on the 31st. I then took off these sections and gave them to another hive, where again I was disappointed, as the bees swarmed and no honey was to be had, the cells being merely enlarged somewhat, then filled and emptied by the bees themselves. So I fear that I shall have no experience to report with regard to sectional supers this year. I see in my notebook a entry at that date in the following terms:—"Never knew so poor a year for honey. Not a single pound visible anywhere. Still feeding two stocks."

My next strongest stock swarmed on the 8th of June, by which time the weather had much improved, and almost a glut of honey followed, but only for a few days. This swarm (alluded to before) behaved strangely; first trying to get into an empty hive adjoining, which had some clean comb ready for use, but many of the bees entered the hive below, out of which came a swarm of May 31st. Then trying to settle on an Apple tree, they finally returned to their own hive, but in considerably diminished numbers. It became evident by the hive piping before the re-issue of this swarm on the 18th of June that they had lost their queen during their first attempt. As I said before, my belief is that at that time their queen entered the hive below and perished there. Be this as it may, the swarm again returned home, their instinct leading them to prefer a well-filled hive to the chances of starvation at a separate establishment in so unpromising a season, for by this time all honey-gathering had ceased again. Fearing this result, and wishing to increase my number of hives, as soon as they had re-entered the parent stock I drove out the whole available population and made a strong swarm thereof, hiving them in one of my largest hive boxes. This was put in the place of the parent stock, which I shifted to another part of the garden. Of course there was an abundance of brood coming on, and several royal cells in every stage of development. When I left home on the 9th of July these bees, both swarm and parent stock, were doing as well as the circumstances of the bad season would allow.

On the 22nd of June—expecting a strong stock of black bees to swarm which had partially filled a small super, and wishing to substitute a half-bred Italian princess for their own queen—I drove out the whole population, killed their black queen on the spot, and hived them in a Woodbury bar-framed hive. This had been prepared beforehand by adjustment within the frames of several combs of pure Italian brood taken out of a weak stock whose queen had been imported by me last September. On the same day I had previously driven the pure Italian bees with their queen into a temporary box, but I subsequently turned them into the hive out of which I had driven the black bees. I thus gained a double object, italianising a common English stock and strengthening a weak Italian one.

With regard to the Woodbury, I have to remark that on examining it on the 4th of July I saw a beautiful Italian princess (very lively) perambulating the combs; she was therefore but twelve days exactly in being reared, and the bees can have lost not a moment of time in replacing their old queen.

My last operation before leaving home on the 23rd of June was similar to that just described. My sole remaining stock of black bees was deprived of its queen and made to change hives with a weak hive of hybrid Italians which had just reared a prolific young queen.—B. & W.

PLEASURES AND PROFITS OF BEE-KEEPING.

SOME people keep bees for pleasure, some for profit, and some for both. In some instances pleasure and profit are bound together and go hand-in-hand. I keep bees for profit, and in doing so derive a large measure of enjoyment. Bee-keepers with open eyes and ears have grand times amongst their bees. How often a stroll through the apiary drives "dull care away." What lessons of contentment and unity, fraternity and equality, industry and cleanliness, may be learned from bees. How many hundreds and thousands of times have I after nightfall placed and gently pressed my ear against the sides of hives to listen to the wonderful hum inside. What a wonderful buzz is there heard night and day continually. It is a hum of commotion and concord, of health and activity. No sound of discord, no jarring note is heard in any part of a bee hive. Bees have not time to grumble, nor occasion for grumbling, as every inmate of a hive works willingly and unerringly. Injustice and wrong-doing find no place in a bee hive. Magistrates and authority of all kinds are unnecessary. All the working inhabitants are free-born citizens with unfailing courage and loyalty. While human beings lock their doors and go to bed, and while the millioned city of London is lulled into quiet for a few hours after midnight, the hum of a bee hive goes on unceasingly.

And what real enjoyment the bee-keeper has from seeing his favourites at work outside carrying home water for the day before honey can be had, before the dew evaporates, in seeing them afterwards going off in continuous streams to the fields and returning with heavy loads of pollen and honey, in witnessing the expansion of the city by comb-building, the increase of popu-

lation by breeding, the swarming of bees, the multiplication of stocks, and the signs or prospects of a harvest of honey! What real and inexpressible enjoyment have we seen marking the faces of working people, both husbands and wives, at harvest time when they have had a great take of honey! Good hives and good harvests buy golden nuggets, and golden nuggets help to soften the hardships and sweeten the lives of honest well-behaved working people.

My sympathies have ever been with working people. Bee-keeping has been commended to their attention, and my efforts to help them have been well appreciated, and far more influential than I expected at one time. The letters of thanks that I receive amply reward me for past efforts, and encourage me to go on and work while it is day. The profits of bee-keeping are relative. An income of £10, £20, or £40 a-year in addition to that of wages is a great consideration to a working man; whereas it is but "dust of the balance" to gentlemen of position and ample means. Forty shillings profit per hive annually is, in my opinion, an average and satisfactory return from bees well managed. The old-fashioned bee-keepers who have gone before us, and others who are coming after us, have been satisfied with an average return of £2 per hive yearly. If a working man has time and convenience to manage ten hives of bees and commence bee-keeping in earnest, he will find in time that the figures now given will represent approximately the average of his returns, if the price of honey continue at the present rate. We know that hundreds and thousands of working people in the country have both time and convenience for bee-keeping if they had the will and inclination. Any bit of a garden in a country town, or outside the town, will answer for an apiary. Any corner of a plantation, or wood, or a nest of whins, protected from boys and cattle, will do for bees. I am thankful to pay for the privilege of nestling a few hives underneath a hedge, or sticking them in a thicket anywhere in the neighbourhood of good pasture. I have not found an unfavourable position for bees, and care nothing for shade or sunshine—east, west, north, or south.

To those who intend to commence bee-keeping let me first say, Buy your hives as near home as possible. If you begin with stocks or hives at work they should come from a distance of about two miles. But swarms could be moved with safety on the day of swarming from any place near. If you cannot procure bees in modern hives, buy old-fashioned small English hives and begin with them. Make or buy larger hives for the swarms you obtain from these, for large profits cannot be had from small hives. Secondly, Increase the number of your hives by swarming till you possess the number you intend to keep and manage. Suppose four hives are bought in autumn and doubled in number by swarming next year, and suppose further that by taking the honey from the first swarms £5 or £6 profits could be realised during the first season, what should be done? If the profits are absolutely necessary in the first year reduce the number of stocks; but if not it will be better to keep all the stocks, and thus put yourself in possession of the means of gaining £15 or £16 a-year.

While the stocks are being increased in number the owner gains experience and lays his plans for future action. If a good and successful beginning be made, a bright and successful future lies before him, if weather permit. If he follows the swarming system of management his eight hives will be multiplied into sixteen or twenty. By taking the honey in autumn from eight or twelve of the best he will pocket a handsome return as his first-fruits of bee-keeping, and have larger and better stocks for the year following.

In good seasons we have two harvests of honey, as most of the readers of this Journal know. The first one comes from the stocks three weeks after swarms, and the later one from the first swarms at the end of the season.

On the non-swarming principle both super-comb and run honey may be obtained, but no increase of stocks of course. A hive that gathers 40 lbs. or 50 lbs. of honey into supers generally gathers a great deal in the hive beneath. After removing the super or supers I drive all the bees from a non-swarm, take its honey and feed the bees into a stock hive.

Some bee-keepers follow both systems of management, and some swarm all their hives with a view to fill supers. They put their first swarms into small (16-inch) hives, and super them soon after. This is a very commendable and profitable system.

Both systems, swarming and non-swarming, admit of various modifications. Happy and fortunate are those who begin well and receive encouragement and confidence at every stage of their course.—A. PETTIGREW.

OUR LETTER BOX.

MAGGOTS IN CHICKENS' CROPS (J. Douglas).—Pour a few drops of spirits of turpentine down their throats. A few drops will do, letting one drop at a time trickle down, and the spirit arising therefrom kills the maggots. Perhaps a little meal saturated with the spirits, given in the form of a pill occasionally, might have the desired effect.

FOUL BROOD (Ryecroft).—There is no cure for foul brood in hives; no

known method of preventing it from spreading when once there. We advise you to drive the bees from all your diseased hives into empty hives and feed them into stocks. When the bees are driven into empty hives they will form very small swarms, which at this late season should be united in pairs or placed in small hives. The hives containing the foul brood should be emptied, well scraped and cleaned, and thus prepared for use again. We have used hives that were diseased again and again, but never found that the hives themselves contained or carried infection.

DRIVING BEES—FEEDING (Novice).—You may easily drive the bees out of your small hive into a larger one. When the small hive is turned upside down tie a large towel or cloth round the rim, so that the larger hive may rest on it while the bees are being driven up. Drum pretty hard and constantly for twenty minutes. After the bees have fairly settled begin feeding them. One pound of sugar boiled in a pint of water should be given every night for four days, then double the quantity every night for eight days, thus giving the bees 20 lbs. of sugar in all in about twelve days. Keep the hive warmly covered, and contract the door to promote comb-building. It does not matter much whether the syrup is given at the top or bottom of the hive.

CHLOROFORM FOR TAKING HONEY (A. B. C.).—In taking bees from combs chloroform may be used in various ways. A piece of rag about 6 inches square may be saturated with a teaspoonful of chloroform, placed on a plate, and covered with perforated zinc. Raise the hive and place the plate with its contents on the board, and then close the door for fifteen minutes or less. The bees fall down on the board helpless and prostrate. The hive should be removed and the bees exposed to the atmosphere. The shorter the time the bees are under the effects of the chloroform the better is the chance of safe recovery. Though we have used chloroform successfully and without apparent injury to the bees, we do not recommend its use. If your heavy hives have young combs part of their contents may be removed, but if the combs are two years old the bees should be driven into empty hives and fed. Sugar-made stocks cost little and generally do well.

SUPERS NOT FILLED (J. Thatcher).—You have been very fortunate in having a super nearly filled on your first swarm this very unfavourable season. Your two stocks and the later swarm having had room enough below never needed the supers. If the season had been a honey one your bees would have filled all the supers. The casting-out of brood in unfavourable seasons is a common occurrence. It is an indication that the bees are either greatly discouraged by weather or fear the approach of famine. The brood of drones, useless members of the community at the close of seasons, is first sacrificed by a marvellously wise and instinctive economy. The heap of young drones now lying beneath the flight board is there because the bees want all the food of the hive for themselves. On examination you will perhaps find that they have hardly enough for the winter months. As the season for honey-gathering is over we advise you to remove the super that is nearly full, otherwise the bees may carry its contents below.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.						Rain.
1877.	Baromet. ter at ²³ Sea and Level.	Hygromet- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.				
		Dry.	Wet.			Max.	Min.	In sun.	On grass.			
Aug.	Inches.	deg.	deg.	S. E.	deg.	deg.	deg.	deg.	deg.	In.		
We. 8	29.502	63.4	59.4	S. E.	63.4	70.8	55.3	112.0	51.7	0.940		
Th. 9	29.627	62.6	58.0	W.	62.3	71.6	58.1	121.0	56.2	0.109		
Fri. 10	29.860	65.9	59.4	S. W.	62.3	70.6	55.2	117.9	52.8	—		
Sat. 11	29.972	63.1	56.1	N. W.	61.2	69.8	51.8	120.8	49.4	—		
Sun. 12	30.069	62.0	55.5	N.	61.0	72.2	49.8	123.8	45.8	—		
Mo. 13	29.912	68.5	63.8	N.	62.4	74.1	57.7	124.6	54.9	—		
Tu. 14	29.796	69.8	63.9	N.	63.9	81.2	59.1	130.0	55.8	0.010		
Means	29.820	64.8	59.4		63.2	72.9	55.1	121.2	52.4	0.459		

REMARKS.

8th.—Very bright early forenoon; cloudy showery afternoon, and very wet night.

9th.—Dull morning and very showery day, rather better towards the after part of the day.

10th.—Very fine morning; a very beautiful day throughout, except for a very short time about half past six, when it was very dark and stormlike.

11th.—A fair and pleasant day, rather rainlike about 2 P.M., and cloudy though fair during the remainder of the day.

12th.—Fine morning and pleasant day, though occasionally close and cloudy.

13th.—Gray morning, at times cloudy and stormlike, at other times very fine and bright.

14th.—A splendid summer day, bright, warm, and almost cloudless.

A week of moderately equable temperature, and although the mean is slightly in excess of last week, the heat has not been oppressive.—G. J. SIMONS.

COVENT GARDEN MARKET.—AUGUST 15.

BUSINESS remains quiet. We have no alteration to make in the price of vegetables.

FRUIT.

		s.	d.	s.	d.			s.	d.	s.	d.
Apples.....	1 sieve	8	0	to 4	6	Melons.....	each	5	0	to 8	0
Apricots.....	dozen	1	6	3	0	Nectarines....	dozen	4	0	18	0
Cherries.....	lb	0	4	1	0	Oranges.....	dozen	10	0	16	0
Chestnuts.....	bushel	0	0	3	0	Peaches.....	dozen	3	0	20	0
Currants.....	1 sieve	3	0	4	6	Pears, kitchen..	dozen	0	0	0	0
Black.....	1 sieve	4	0	5	0	dessert.....	dozen	1	6	8	0
Figs.....	dozen	2	0	9	0	Pine Apples....	lb.	2	0	5	0
Filberts.....	lb.	0	0	0	0	Plums.....	1 sieve	0	6	0	0
Cobs.....	lb	0	0	0	0	Raspberries....	lb.	0	6	1	0
Gooseberries..	1 bushel	8	6	4	6	Strawberries..	lb.	0	6	1	6
Grapes, house	lb.	1	0	8	0	Walnuts.....	bushel	5	0	8	0
Lemons.....	100	6	0	10	0	ditto.....	100	0	0	0	0

WEEKLY CALENDAR.

Day of Month.	Day of Week.	AUGUST 23—29, 1877.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.		Clock before Sun.		Day of Year.
			Day.	Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.	Days.	m.	s.		
23	Th	Reading Show.	71.8	49.0	60.4	5	0	7	5	7	1	4	8	●	2	23	235	
24	F		71.6	47.9	58.7	5	2	7	3	7	12	5	19	16	2	7	236	
25	S	Shotley Bridge Show.	74.1	49.7	61.9	5	3	7	0	7	22	6	30	17	1	51	237	
26	SUN	13 SUNDAY AFTER TRINITY.	72.5	48.4	60.4	5	5	6	58	7	31	7	40	18	1	34	238	
27	M		73.3	49.1	61.2	5	6	6	56	7	42	8	50	19	1	17	239	
28	Tu	Pookington Show.	72.7	49.7	61.2	5	8	6	54	7	55	10	3	20	1	0	240	
29	W	Isle of Thanet and Chippenham Shows.	71.2	47.6	59.4	5	10	6	52	8	11	11	19	21	0	42	241	

From observation taken near London during forty-three years, the average day temperature of the week is 72.4°; and its night temperature 48.8°.

THE CULFORD GRAPE-VINE SPORT.

POSSIBLY it may be in the recollection of some of the readers of the *Journal of Horticulture* that this very unlooked-for production was described in its pages, as well as in that of some of its contemporaries, during the latter part of the year 1874, and frequently alluded to at periods subsequent to that date; and it may also be recollected that one or two writers upon the subject, who had not seen the sport in question, appeared to doubt very much the correctness of the opinions formed regarding it by those who had seen it.

At the time when these doubts were expressed in the gardening periodicals the sport or bunch of Grapes in question was not of course in existence; and the matter so far as it concerns the general public, or at least the portion of it who felt any interest in the subject, necessarily remained in doubt, as during the two succeeding seasons, although shoots were produced by the spur which had produced the remarkable bunch of 1874, these shoots showed no fruit during 1875 and 1876. During the present season, however, a bunch is again produced on the same spur, so that anyone who may feel interested in the matter may now examine it.

As many of your readers, it may well be supposed, have not seen the correspondence which took place upon the subject, or who may have forgotten all about it, I will recapitulate in as few words as possible the circumstances connected with the case, which are as follows:—Some twenty-five years since a house here was planted with what was at that time considered one of the best late varieties of Grape Vines—viz., West's St. Peter's, and some five or six years afterwards one of the Vines was cut down and grafted with the Black Alicante variety. A few years afterwards three distinct shoots of the Black Alicante had inarched upon them three very distinct and comparatively new varieties—namely, the Trebbiano, the Golden Champion, and Mrs. Pince's Black Muscat, each variety forming a distinct rod, which during several years continued to produce their respective kinds of fruit not apparently in any degree influenced by the stock, or rather the compound stock, upon which they grew. In January, 1874, the Golden Champion rod was cut out altogether, the severance taking place at a few inches below its junction with the Alicante stock; and during that season the two remaining rods—viz., Trebbiano and Mrs. Pince, bore their respective kinds of fruit as usual, with the singular exception of the Trebbiano rod, which on one spur near the centre of the rod produced a bunch entirely different from all the other bunches upon the rod, above as well as below this remarkable sport or deviation from the normal type of the Trebbiano variety; the appearance of this bunch being in all respects identical with that of the Golden Champion fruit, samples of which were close at hand and frequently compared with it.

Upon this circumstance being made public Mr. William Thomson of the Tweed Vineyard, Clovenfords, who was

the raiser of the Golden Champion variety, expressed his decided disbelief of the circumstance as related, and assured all who had seen it (he had not seen it himself) that they were deceived by the appearance of a bunch of the Trebbiano variety with unusually well-developed berries, &c. By this time the buds which were upon the shoot which had produced this bunch had been inserted as eyes, and I promised to send a plant to Mr. Thomson as soon as they became established in order that he might fruit it, but from some cause the buds all died. But at the end of the following season I sent him eyes from a shoot which had been produced from the same spur, but which had shown no fruit; and I think Mr. Thomson has stated that he had succeeded in striking them, and it is possible that some of them may now be in fruit, and if so, it will be interesting to know if they differ in any degree from the ordinary Trebbiano. No doubt Mr. Thomson will kindly furnish this information.

With regard to the bunch of fruit produced by the spur in question during the present season it is now (August 15th) approaching to a ripe condition, and this is very far from being the case as regards the other bunches borne upon the same rod; while the berries of the former are at least twice as large as those of the latter.

It has of course been very naturally supposed by some that the circumstance of the Golden Champion variety having for some years grown upon the same stock may in some way have influenced the Trebbiano rod as to induce this production; and this may or may not be the case. Sports or *lusus nature* occasionally occur in the vegetable as well as the animal kingdom, when it is, I believe, quite impossible to point to a cause for their development; and if the existence of the Golden Champion variety upon the same stock as the Trebbiano be supposed to have produced this effect upon the latter it seems strange that it should not have been developed until the former was removed. While again, if there is any truth in Mr. Murray's theory of the non-descent of the sap, then the one rod could have no influence upon the other whatever, as it will be seen that it is only by the action of a descending current through the medium of the stock that this could have been effected.—P. GRIEVE.

DISAPPOINTED EXHIBITORS OF ROSES.

IN the great (and every year increasing) competition of the present time it stands to reason that many exhibitors at our Rose shows are left out in the cold. No prize card adorns their stands, and after all the trouble they have taken and the expense to which they have been put, not only in rearing their plants but in bringing their blooms to the show, the result is very trying, and they are what these notes are intended to treat of—disappointed exhibitors.

There are very few of the most successful Rose growers, whether professional or amateur, who have not been in this sad plight some time or other, and I cannot well imagine anything more disappointing than to show in all the classes at a great show and to be placed in none. But recognising this, let us see what course is open to those

who, as a general rule, score blanks at the shows. "Cease to show," perhaps someone will suggest; "if you are always being beaten it shows that you have no idea of growing and showing Roses, so you had better retire." By no means, I answer; never say die, never give in; provided that you have the will you will find the way. Love mocks at all obstacles, and will obtain its object in the end.

My advice is not to aim at too great things; be content with moderate results. And why? Because it is evident that a large proportion of the exhibitors of the queen of flowers must, in some way or other, be placed under great disadvantages. They are what I may call handicapped, it may be as to time, or soil, or distance from the shows, but handicapped they are. By time I allude to inconvenient trains. Hercules at Heavittree begins to cut his blooms at 7 P.M., at which time I am well on my way to London. At the National and London shows many exhibitors cut their blooms the same morning. Now it is evident that the latter have a great advantage over those who are obliged to cut twenty-four hours earlier.

Then as to soil: some of our most successful exhibitors have splendid Rose soils. Mr. Jowitt at Hereford has one of the finest, not in England alone but I should say in Europe; Mr. Baker also has a rich red marl, the very sight of which puts you in a good humour. The same may be said of many other exhibitors; while, on the other hand, a great number have, like myself, a most miserable light, flinty, hungry soil, which is for ever crying, Give, give, and gives nothing in return. It does not stand to reason, then, that we can show on equal terms with men who enjoy all the advantages that we lack. So that we should be content with a less prominent position and do our best to secure not first, but second, or even third prizes. I am quite content if I get second to Mr. Baker at any time, and at the National was overjoyed at getting even a fourth.

But if first must be won by hook or crook, and nothing but the blue ribbon will satisfy, then I would recommend any ambitious exhibitors who are suffering from certain drawbacks or disadvantages to confine their attention to one class in the schedule, and let them have that class in their mind's eye, not only when they stage, but all the season through, and even the winter before. Let them buy their Roses so as to suit the class. If they are wise they will leave forty-eight distinct varieties to giants like Messrs. Baker, Jowitt, and Hole; and even thirty-six I would recommend them to leave alone. Twenty-four singles, or when obliged twenty-four trebles, is the class to suit them. In the autumn let them decide on the Roses which they purchase, not from the catalogues but from experience. Let them only buy those Roses which they know do well in their soil, and let them buy these in large numbers. However tempting *Marquise de Mortemart* or *Madame Furtado*, or any other weak growers may look on paper, let them not be induced to buy them. A man who wishes to show twenty-four trebles well ought to have about fifty good plants of thirty sorts (not including Teas). These should be planted with the greatest care, and great attention should be paid to the requirements of the various Roses.

Light Roses, such as *Marguerite de St. Amand*, *Mlle. Eugénie Verdier*, *Baronne de Rothschild*, and the like, should be planted where they can have the most sun; but dark Roses, such as *Baron de Bonstetten*, *Pierre Notting*, *Prince Camille de Rohan*, and others, which are apt to burn and shrivel under a fierce sun, should be placed where there is partial shade.

Every conceivable attention should be paid to these plants throughout the season. They should be mulched soon after planting, for I do not approve of digging-in rank manure at the time of planting, as I once lost a whole season's purchase by so doing; but the manure should be placed on the ground, leaving the winter rains to wash its virtues into the soil. In the early spring the ground should be lightly forked over, but care must be taken lest the roots, which then are just beginning to grow, be disturbed. About the middle of February the plants should be pruned, and, excepting the very strong growers, I recommend exceedingly hard pruning. After pruning the second dressing of manure should be applied, and about the first or second week in May the guano should be brought into requisition, but it must be sown with the very greatest care, and be used with great caution. It would perhaps be wiser for anyone who doubts as to the quantity to avoid sowing it at all, but to reserve it for liquid manure. It is so very easy to overdo it, as I know to my cost. During May and June when the weather is dry liquid manure of some kind or other must be frequently applied, and remembering that one good soaking is better than two or three insufficient waterings.

If all this care is taken and the season is moderately favourable, the man who shows twenty-four singles or even trebles from such a patch of Roses as I have named will, to say the least, not be a disappointed exhibitor.

But, if after all our labour the competition is so great that we find ourselves again left out in the cold, let not that fact dishearten us, or, what is still more to be dreaded, sour our tempers. I do not think we often find at our shows men who cannot stand defeat, but we do sometimes at very rare intervals meet with them. I have heard of exhibitors, and leading ones too, being so annoyed at their defeat as to threaten removing their boxes. Others, too, seem to think a personal wrong has been done them, and determine never to show again, at that place at all events. But for the most part old exhibitors take the matter of defeat as calmly and as pleasantly as if they had won the first prize, and that is the only way if we are to have pleasant meetings and happy faces. We cannot, perhaps, help feeling disappointed, but we can hide our feelings, or at all events not let our faces proclaim them.—WYLD SAVAGE.

STRAWBERRIES.

WHICH are the best kinds of Strawberries? is the query of many a puzzled beginner just now, and the answer is but too often preceded by an inquiry about the soil, as if certain sorts would only answer in certain soils, the fact being that all kinds grow strongly and bear fruit abundantly in a rich loam, or in soil that is brought by cultivation as nearly as may be into a similar condition to it. If, therefore, your soil be of a very light and sandy nature do not despair of growing fine fruit, but stir it deeply, mixing a heavy dressing of rich manure with every part of it, striving gradually to give "body" to it by such dressings of heavier soils as may be forthcoming. If, on the contrary, it is a heavy clayey soil, drain it thoroughly, mix as much leaf soil and rough gritty matter with it as you can obtain, so as to enrich, lighten, sweeten, and disintegrate it, and you will have an excellent Strawberry soil. But if, having a heavy soil of a close adhesive nature, and therefore very retentive of moisture, you do nothing more to ameliorate its crude condition than to dig-in a dressing of manure, you certainly establish no stronger right to assert that the sorts of Strawberries which fail in your mismanaged soil are only suitable for light soils than does the man who cultivates such light soil in a similar slipshod fashion to say that his failure arises from the planting of sorts that require a heavy soil, and I shall be glad to learn if anyone can advance any reason beyond the fact of their own failures in support of assertions that are calculated to puzzle and also to mislead.

Turning now to the special object of this note—a comparison of the relative value of different sorts new and old. The points of excellence which have most weight in making a selection are in the fruit sweetness, aroma, size, and form; in the plant fertility, a robust free growth, and hardiness. The early kind in which these points are most strongly developed is *Vicomtesse Héricart de Thury*, otherwise known as *Léon de St. Saumer* and *Duchesse de Trevis*. This is a wonderfully robust and hardy variety, cropping most abundantly, always having plenty of well-ripened medium-sized fruit in its season, very good in flavour, and a sure kind for preserving. It is quite the best sort for a small garden possessing no special facilities for high-class culture, and I strongly recommend it to your amateur readers, very few of whom can afford space for experimental gardening. Next in earliness come *La Grosse Sucrée* and *Sir Joseph Paxton*, both of much excellence; and as a midseason variety I must claim a leading position for *Dr. Hogg*, which under good culture is certainly our best kind in point of full rich flavour and size of fruit, which is very large, flat, and wedge-shaped. It answers admirably in pots as a successional crop to the early forced kinds; but I can only advise its use for pot culture in a large establishment having plenty of spare space under glass. *Lucas* is another fine-flavoured kind, old, but not half so well known as it ought to be. I have this season been through a very extensive collection of Strawberries containing very many old standard kinds and all the latest novelties, and I have to record that *Lucas* bore away the palm from every one of them for sweetness—sweetness which was most pleasing to the palate and quite devoid of insipidity. *Frogmore Late Pine* still holds the first place among late kinds; its abundant fruit is wonderfully juicy, sweet, and yet having a brisk acidity most grateful to the palate. I can hardly suppose "*AMATEUR*" of *Cirencester* has the true variety, as it is quite as late and infinitely superior to *Elton*.

I have selected these few old kinds from a large number of others, many of which are of much excellence, as I have no doubt that most gardeners will agree with me that it is far better to grow a few sterling varieties well than to waste space upon a lot of second-rate sorts merely for the sake of saying one has them. Among new kinds I can speak very highly of Laxton's Traveller. The long, tapering, handsome, and highly coloured fruit is most delicious in flavour, and so firm in texture as to well merit its name. Laxton's Exquisite, too, must become a general favourite; the fruit is globular in outline, very bright in colour, and of most delicious flavour. To these two must be added The Countess, termed by the grower the Strawberry of Strawberries. It has handsome fruit, in colour a very dark crimson, which is all the more striking from a very brilliant gloss upon its surface. So full of promise is the ripe fruit that one is apt to regard its fine flavour quite as a matter of course. I am very much mistaken if this trio of excellent novelties does not become very popular. I tasted a good many other new or but little known kinds, among others *Maréchal MacMahon*, *Helène Gloede*, *Auguste Nicaise*, and *Marie Nicaise*, but none of them impressed me as being worthy of a place in a selection of really choice kinds.

For those who care for large sensational fruit I may name *La Marguerite*, *Duc de Malakoff*, *Helène Gloede*, and *Cockscomb*, but it must not be forgotten that here we have size at the expense of flavour. If a white sort is wanted we have none better than *Bieton Pine*, an old but very good one.—
EDWARD LUCKHURST.

TROPÆOLUM JARRATTI CULTURE.

THIS is stronger in growth and has larger flowers than *T. tricolorum*, the flowers of both being scarlet, yellow, and black. Both are very neat twining plants, charming for covering trellises, which may be flat (in which form they form admirable floral screens) or globes; the leafless top of a Larch or Spruce tree when well covered has a fine effect.

The tubers require to be potted so soon as they begin growing, which is usually in August. They should have pots proportionate to the size of the bulbs. Large bulbs require 8 or 9-inch pots, whilst a 7-inch pot will accommodate a medium-sized bulb. I employ 9-inch pots, and have three bulbs in a pot, having a Spruce top for training the shoots to. The bulbs are placed triangularly in the pot, leaving a clear space in the centre for the introduction of the stem of the Spruce, which clear of the pot will be 2½ to 3 feet high, and half the height in diameter at the base, running up to a point so as to form a pyramid. I prefer this form because the plants take up less room.

Drainage is given to the extent of one-fourth the depth of the pot, covering it about an inch deep with the rough of the compost, which consists of equal parts of light turfy loam, leaf soil, and sandy peat, and a sixth part of silver sand. Fill the pots to within 2 inches of the rim, place the bulbs with the growing side upwards upon a little silver sand, and surround with the same material. Cover about an inch deep, the potting being done moderately firm. It is well for the soil to be in a moist state, but not wet, when employed for potting, so that necessity for watering may not arise until growth takes place.

The plants may be placed in any light airy cool house, and as soon as the shoots are long enough training should commence. The object should be to cover the trellis of whatever form it may be equally in every part with flowering shoots. Upon this depends in a great measure the beauty of the specimen, to secure which very frequent regulation of the shoots is required, not leaving them until they become entangled, it being difficult to disentangle them without much injury resulting.

Water should be given rather sparingly at first, avoiding at all times making the soil sodden, and yet the plants must not be allowed to suffer by want of water. If water be given when the soil is dry—a thorough supply—all will be well, making it liberal when the plants are in full leafage and advancing for flowering. When the flowering is past the leaves will shortly after turn yellow, when water should be gradually withheld, discontinuing it when they are all in that state. The bulbs after the stems are withered should be taken up and kept in a cool dry place until potting time again arrives.

They succeed admirably in a winter temperature from fire heat of 40° to 45°. Aphids sometimes attack them. It is best destroyed by fumigation with tobacco, but it is necessary that the foliage of the plants be dry and an overdose be not

given, or the foliage is liable to suffer. If your correspondent "Y. S. M." follows out this practice he will succeed in growing this attractive twiner.—A.

CUTTING DOWN VINES.

FROM time to time I have heard much about cutting down old trees to renovate them, and occasionally I have seen some wonderful effects from it in the orchard, &c., and it may be interesting to some of your many readers to record a case that occurred to a neighbour of mine, a market gardener, of success in cutting down Vines. Mealy bug unfortunately was introduced into his vineries and caused him much labour and anxiety, for he could not subdue the determined foe, and his Grapes were in a great measure unsaleable. These Vines were dressed by a powerful solution, which not only killed the bug but prevented the Vines breaking freely, and the rods were consequently cut down to the bottom of the rafters. New shoots were soon produced, and two canes were trained up from each old stem. These canes grew with great rapidity and soon reached the top of the house—beautiful clean rods, with foliage like leather that would have delighted any Grape-grower, very unlike the puny-leaved rods which were cut down. In the year following (1876) 60 lbs. weight of Grapes were cut from each Vine, or 30 lbs. off each of the young rods. I did not at all approve of such heavy cropping thinking it must injure the Vines, but on seeing them a few days ago I found them bearing I believe even a heavier crop.

I do not suppose that all old Vines treated so would show similar results; but where the soil is suitable, bunches turning small and Vines showing signs of being worn out, it might be worthy of consideration whether to make new borders and replant with young Vines or to try the cutting-down system. No doubt in the present case the odds were very much in favour of the cutting-down system, and the owner could not have hoped under the most favourable circumstances to have cut any such quantity from young Vines, and that without entailing the heavy expense of making new borders.

Another useful lesson may also be learned from the above occurrence—namely, the danger of applying strong remedies for destroying insects on a large scale before first having tested them on a single branch. I remember having read a few years ago of the virtues of paraffin oil as an insect-destroyer, and thought I would try it on a Green Gage Plum that was badly infested with scale, when it killed the scale by killing the tree.

I am well aware that the cutting-down of old Vines is not a new idea, as I have seen it practised many years ago, and have also seen the plan recommended in your Journal, yet the case mentioned was such a marked success that I could not resist the temptation of putting it on record.—J. B. S.

TRANSPLANTING TREES.

FOR some years I have adopted the plan I am to relate with great success. Where there are large plantations to make it is almost impossible to transplant all the trees in the months of October and November (the only really good months for transplanting) unless some different plan be used to that commonly adopted. I became so tired of seeing men spending two or three hours in digging up a tree—cutting off a large number of small roots or fibres, on which the tree depended for its growth—that I set to work to find out some quicker method. I commenced by making some very strong three-pronged forks, so strong as to admit of their being driven into the ground with heavy wooden mallets. I used them thus: Supposing you wish to operate on a Fir tree, say from 7 to 8 feet in height, a fork is driven in on each side of the tree; it is then moved backwards and forwards slightly and withdrawn. These forks are then driven in again between the two last cuts, and the tree is hoisted in the air, earth and fibrous roots coming up together. Supposing the tree has long straggling roots, it is necessary to cut them off at 4 or 5 feet from the stem. It is easy to see the direction in which the roots run during the time the tree is being suspended. To cut these roots I had a saw made by Burgess & Key, consisting of a stout stem 3 feet in length with a sickle-shaped saw at the end. This is thrust into ground, and the root is then cut off. When the tree is free and suspended a strong square plate of iron with rings at each corner is dragged under it, the tree is tied to each ring, and horses draw it to its destination. I moved eighty Fir trees last season. Every one has grown considerably. If there are no straggling roots the time occupied

for moving each tree is exactly two minutes. I will return to this subject.—OBSERVER.

SPIRÆA FILIPENDULA PLENA AND OTHERS.

YOUR notice of *S. arifolia* (page 94) prompts my referring to the very beautiful *S. Filipendula plena*. Foliage dense and Fern-like, forming an elegant clump with branching heads of snow-white flowers, double, therefore very enduring; flowering in July and August onward; very pleasing alike in borders, and for affording sprays (not scented) for bouquets and vases—a combination of qualities rendering it one of the best of hardy flowers. It attains to a height of $1\frac{1}{2}$ to 2 feet, though I have seen plants over a yard across and as much in height. Masses of it stand out grandly in the front of shrubs. Its roots are tuberous or knotted, propagation being effected by division in spring. Every crown with a portion of root will grow.

Although *Spiræas* in nature appear to prefer a moist situation, yet such is not by any means absolutely necessary, it being of far more consequence that they have a soil containing vegetable matter in a state of decay, or, failing that, liberal applications to the soil of leaf soil or manure. All they want is an abundance of humus. If the soil be dry we have only to water copiously and top-dress with rich vegetable refuse liberally. The best manure that I have employed is dried cow dung; it does not induce rank growth like the more stimulating horse and fowls' dungs.

There is no questioning the beauty of these plants in borders, nor their great usefulness for affording flowers for cutting, to say nothing of their remarkable adaptability for forcing; yet there is another purpose they might be put to with marked advantage—specimens dotted irregularly on grass, or a mass with irregularly disposed isolated specimens, there being a great want of colour in most pleasure grounds, and in many instances of form, which these and similar graceful or elegant plants or grasses would to a great extent supply. *S. ulmifolia* is a stately plant, *S. venusta* lovely, and *S. palmata* is very valuable.

All the *Spiræas* named, along with our very fine but neglected *S. Ulmaria*, and its red variety (*S. Ulmaria rubra*) and the variegated Meadow-sweet (*S. Ulmaria variegata*), are all available for forcing; but the most easily forced is *S. japonica*, though the others force readily enough if strong well-developed crowns are employed. But all have a decided dislike to tobacco smoke, the foliage being always more or less damaged by it whenever the house in which they are grown is fumigated; hence during fumigation I always have the *Spiræas* removed. *S. japonica* (*Astilba barbata*) with *S. palmata* are not with me hardy, the foliage being nipped by frost if after-growth has commenced in the spring; but the plants soon recover and make fresh foliage quickly, and flower later than usual. I have plants on a north border now (early August) well flowered.—G. ABBEY.

ROSE ELECTION.

OUR friend Mr. Hinton's decision to have an exhibition Rose election this year I think a very good one. In common with many of my professional brethren I wish, if not too late this season, it could have been extended to seventy-two exhibition varieties, the number required for a first-class stand, instead of forty-eight.

My reasons for wishing or suggesting it are that the exhibition class cannot at all be fairly represented by forty-eight varieties, when every amateur who exhibits in the class for forty-eight must grow at least seventy-two of the best exhibition flowers to meet the vicissitudes of our seasons. If a cold showery rosetide sets in, very many of our grand double Roses contained in the first forty-eight list will stain and not come out so well as thinner and often second-rate varieties, so that amateurs should grow nearly double the number of kinds they intend to exhibit to be ready for any season.

I am aware it may be said the collective number of varieties sent in by numerous rosarians as last year would swell the list to more than seventy-two to select from; but this, I think, will not meet the case, as in some of the previous Rose elections many of the old yet good second-rate Roses very well known were repeated over so many times that an undue prominence was given to them over better Roses less seen and known. I would ask Mr. Hinton if it would not be best to more distinctly divide this forthcoming exhibition election into two classes—northern and southern exhibitors; and if some, say twelve able

southern professionals, as well as an equal number of "ex-professional" amateurs, would kindly send in their lists of the best seventy-two exhibition Roses, arranged, as Mr. Hinton suggests, in order of merit, we should then have a truly valuable official guide for all exhibitors throughout the southern half of England. The same thing would of course be done for the northern half—Scotland and Ireland.

I will conclude these remarks by giving the names of the southern professionals who I earnestly hope will this season give our able returning officer their lists and support, as it will greatly help the exhibition cause—making more rosarians, enabling them to spend their energy and strength only on the best varieties to the exclusion and weeding from our too lengthy catalogues of worthless varieties which have not been proved on the exhibition table. A word another time about the best garden Roses—the stay-at-homes; they must and will be sharers in the spoil. Here follow names and invitation to Messrs. Cant, Cooling, Corp, Cranston, Davison, Durbin, Keynes, Mitchell, Paul, Prince, Turner, Walters, Curtis.—H. C. Torquay.

THE CIDER FRUITS OF HEREFORDSHIRE.

THE FOX-WHELP APPLE.

(Continued from page 132.)

FIG. 28 at page 132 is taken from a good specimen of the fruit which was exhibited at the meeting of the Woolhope Club at Hereford in 1876. The fruit came from a tree which had been in possession of the same family for 130 years, and the tree itself is supposed to be 200 years old. FIG. 29 (page 132) represents a longitudinal section of the fruit exhibiting the structure of the eye, the tube, and the core; and the lower part is a transverse section of the same fruit showing the formation of the cells.



Fig. 33.

The form of the fruit varies according to the age of the tree, and this is the case with most varieties. FIGS. 33 and 34 are taken from fruit grown by John Bosey, Esq., of Lyde, and exhibit the result of successive graftings from one graft taken originally from one of the old trees of the Fox-whelp. FIG. 33 represents a fruit from a tree which is the result of four successive graftings, the scions being taken in each instance from the tree grafted the previous year; and fig. 34 is that from a tree which has had the grafting repeated five times.

The home of the Fox-whelp Apple, be its origin what it may, is in the deep clay loam of the old red sandstone in the central districts of Herefordshire, and especially in the valleys of the rivers Lug and Froome. The chief orchards in the villages of Lugwardine, Westhild, Withington, Holmer, Lyde, Moreton, Sutton, Wistaston, Marden, Bodenham, Burrup, Wellington-on-the-Lug, and those of Weston Begard, Yorkhill, Stretton, Granditon, Eggleton, the Froomes, the Cowarnes, and other villages on the Froome, are seldom without several old trees of the Fox-whelp Apple. The broad valley of the Wye does not generally present so good and rich a soil. The river has been so erratic in days gone by that large beds of gravel and marl are to be met with in all directions, and the orchards of repute therefore are only to be found on the rising slopes of the valley out of the river's reach. Here are many excellent

orchards from King's Cople and Holme Lacey by Credenhill to Kirmersby, Samesfield, and the Weobley district. The Fox-whelp may be found in any of them, and wherever it is found it is treasured greatly for its own cider, unmixed where the trees are sufficiently numerous to make it, or for giving strength and flavour to the mixed cider where they are in fewer numbers.

The Fox-whelp Apple tree is upright and handsome in growth where age has not rendered it rugged and gnarled. In some situations its growth is peculiar; it bends at an angle as the branches are given off, and these elbows will here distinguish the Fox-whelp tree from those of other kinds; but this is not general. The tree is hardy and productive, and its fruit in great demand. There is yet a want of young trees generally,

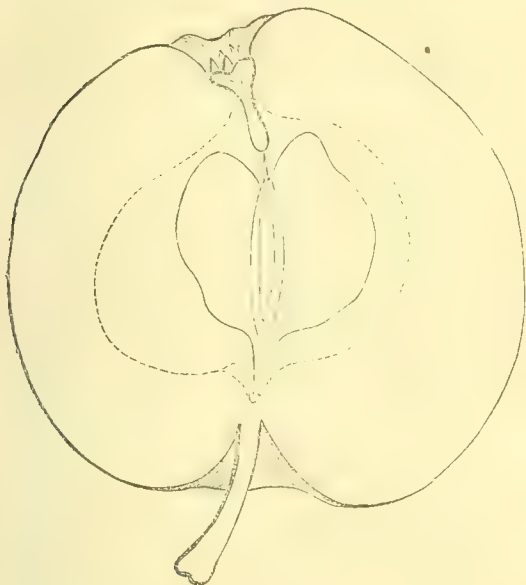


Fig. 34.

for, be the reason what it may, grafts of late years have not succeeded well.

The Fox-whelp cider when pure is of great strength, and always has a peculiar aroma, so marked that it can be detected directly the cork is drawn from the bottle. In taste it is generally rough and strong, with the peculiar musky flavour that gives its aroma. In ordinary seasons, unless made with great care, it is not sweet enough to be acceptable to strangers, and the taste which enjoys its peculiar flavour fully must in such circumstances, perhaps, be acquired; but in a favourable year—a year of sunshine and genial showers, when the fruit has been ripened to perfection—happy is he who has a good hit of it. If he carries it well through the process of fermentation and keeps the flavour of the fruit and its sweetness too he has cider in perfection—a cider that will sell readily in its own district at a guinea a dozen. It will not all be sold, however, for it is the pleasure and pride of the cider-growers of Herefordshire to have always ready for a friend a bottle of good Fox-whelp cider of a good year. The Fox-whelp Apple is, however, most used to give strength and flavour to the cider of mixed fruit, and when this is well made it is perhaps more generally popular than the very strong and pure Fox-whelp. A cider of this kind, excellent in quality, can be got at 1s. a bottle from the growers. The Fox-whelp cider has the character of changing colour very quickly on exposure to the air, and even at the table if not drunk quickly the dusky greenish tint will show itself. Some other strong ciders have also this peculiarity, which is certainly not a virtue.

The Fox-whelp Apple sells well in September as a “pot fruit.” Its brilliant colour recommends it to everyone, and its piquant rough flavour is pleasant to all who have learnt to appreciate its cider. It is an excellent cooking Apple for pies and puddings, and “the Apple of all others to make sauce for the Michaelmas goose or a roast leg of pork.”

A Fox-whelp Apple of good size and colour yielded $7\frac{1}{2}$ drachms of a strongly acidulated juice with its own flavour, and of the specific gravity of 1068; and others of smaller size gave

$5\frac{1}{2}$ drachms of juice with a specific gravity of 1074. Mr. Knight gives the higher specific gravity of 1076 to 1080, which perhaps might be due to a more favourable year.

Different Apples have been in favour with cider makers at different periods. The Gennet Moyle had to give way to the Red Streak, and both have had to yield the palm to the virtues of the Fox-whelp. Beyond all question this is now the favourite Apple.

There are several varieties of Fox-whelp, called “Bastard Fox-whelp” in common language. A “Black Fox-whelp” is also thought much of in some orchards, and is said to be the same Apple that is so highly esteemed in Somersetshire.

TAUNTON DEANE HORTICULTURAL SOCIETY.

THE handsome and cleanly county town of Somerset once more put on its holiday attire on the occasion of the tenth annual Show of this Society, and entered, as is the wont of these western towns, *con amore* into the engagements of the day. To all classes it seemed a general holiday, the county gentry attending in large numbers, while the market people and labouring classes seemed to enter into it with as much interest as their leaders. The Vivary Park, in which the Show was held, was thronged with visitors, contrasting most favourably with the cold and hesitating manner in which such events are regarded in the east of England. The Exhibition itself was a remarkably good one, and both amateurs and nurserymen contributed in great force to its success. There were five tents, one devoted to the productions of nurserymen—plants and flowers, a similar one to those of amateurs, another to fruits and vegetables, a fourth to cottagers’ productions, and a small one for the contributions of ladies in table decorations and bouquets. Of the whole Show it may well be said that the exhibits were remarkably good. It often happens at provincial shows that a good deal of rubbish is allowed to be put up, but with only one or two exceptions nothing unworthy of the exhibitors was shown. One or two features marked this as distinct from its predecessors of the last few years—the disappearance of Mr. Cypher, who has disposed of his large plants, and the re-appearance as an exhibitor of that hearty and enthusiastic patron of horticulture, Mr. Marshall of Taunton, whose charming residence of Belmont I once attempted to describe in the Journal.

In the classes for large plants, stove and greenhouse and exotic Ferns, the chief prizes fell to Messrs. Lucombe, Pince, and Co., whose plants were marvels of good cultivation; and it is clear from what I saw here that it is only the great distance, trouble, and expense that prevents this well-known firm from successfully competing at the metropolitan shows. Their Ferns were truly grand, and the splendid examples of Allamandas, Ixoras, Clerodendrons, &c., were worthy of all the admiration they received. In the cut flowers there were some splendid exhibits. Messrs. Kelway & Son exhibited, not for competition, a grand collection of their seedling Gladioli (three dozen), amongst which were some quite new flowers of great excellence, to which no fewer than six first-class certificates were awarded. They occupied one extremity of the staging, and were surrounded by groups of admiring visitors throughout the day. In Roses Mr. Corp of Oxford was the chief exhibitor. I have seen a few Roses in my day and think I know something about them, but I can safely say that I never saw in the month of August such stands of blooms, and in this opinion I was not singular. Devienne Lamy, Charles Lefebvre, Marguerite Brassac, La France, and others were simply magnificent, especially the first-named; they were all grown on the seedling Briar, and afforded another proof of the value of that stock. In Dahlias Mr. Keynes was first with blooms displaying the well-known finish and excellence that always has characterised the Salisbury blooms. Mr. S. Dobree, an amateur, was an excellent second. As the class was an open one his Verbenas also were very fine.

In the amateurs’ tent the chief prizes for plants were awarded to Mr. Lawless of Exeter and to Mr. Marshall. These plants, although not so large as the nurserymen’s, were very good, and the Ferns especially so. Mr. Marshall also took first prizes for Gladioli and for some splendid examples of Achimenes such as we are not in the habit of seeing about London. The chief prizes in florists’ flowers fell to Mr. Dobree, whose Dahlias, Verbenas, Asters, &c., were very fine.

The fruit, as might have been expected, was not remarkable, but the vegetables were very fine; and the cottagers’ productions were both numerous and very excellent in quality, while they displayed a good deal of taste in their arrangement of flowers.

The weak point of the Show was the table decorations. Fair prizes were offered, and yet but two exhibitors competed, and of these the less said the better. As I have once before said this is a wonder, for they have had benefit of the very best examples, as Miss Hassard once exhibited here, and yet nothing could be poorer than the two tables arranged on this occasion.

Need I add that the arrangements were excellent, that the

Secretary and Committee worked heartily, and that kind feeling and good fellowship marked all the proceedings of the day, which I hope may also have proved financially a success.—*D., Deal.*

STRAWBERRY CULTURE.

I AGREE with "W. S. P." that there is a great difference in the proper treatment of Strawberries on light and strong soils. My soil is a sandy loam, and runners, however carefully prepared, will not give a good or full crop of Strawberries the next season, but the second—that is, two years after planting, they are fine, and if proper care is taken in cutting-off the runners and separating the plants immediately after the fruiting season is over, not delaying the work till the rows are matted into one whole bed, there will be just as good if not a better crop, with a winter's mulching of manure, the third year as the second. Strawberries in light soil by careful management may be made to bear good crops for many years. No doubt in strong soils the plants may be fruited one year after planting and produce good crops, but Strawberry runners in strong soils are seldom fit for early planting.

It is a good plan, if the ground is not ready to plant early in August, to prick runners in rich soil under a cold frame. I have frames for this purpose about 9 feet long and 2 feet wide, the glass being merely loose strong sheets of 21-oz. glass 2 feet long and 20 inches wide laid on the top of the frame and secured with a wire pin. The frames are made slightly to slope, being about 7 inches high at the back and 3½ in the front, and grooved at the back to hold the glass. The corners of the frames are raised on bricks. As the Strawberry runners grow care is taken to keep them well watered, and to prevent fresh runners being thrown out. If planted about 5 or 6 inches apart they may be taken-up with balls and transplanted whenever the ground is ready, and they will do better than runners taken off the plants earlier and put into their fruiting quarters at once. As to distance, the rows should not be less than 2 feet apart nor less than 20 inches between the plants. Never make a bed of more than three rows, then leave a space of 4 feet so as to make your distance between the beds double that between the rows; this not only gives room for picking, but prevents the sorts running one into another and becoming mixed. In light soils mulch well in the winter months. Take the mulching off in the middle of April, leaving the beds exposed to the full sun and air till the flowering season, then litter the ground (after giving a good watering with liquid manure if the soil is at all dry), with chopped straw strewn not too heavily between and amongst the plants. It has one great advantage over long straw, that the plants do not require to be so much pulled about by the hand, and that no snails or slugs can work amongst it, especially if barley straw with barley chaff is used. Now as to sorts.

I have discarded Black Prince and Keens' Seedling. I find no sorts so good for general purposes as Vicomtesse Hericart de Thury, Sir Joseph Paxton, Lucas, and President; then for late, Myatt's Eleanor and Eliza. Dr. Hogg and British Queen do not do well with me. Amongst other very good sorts are James Veitch, a fine large Strawberry and free bearer; Cockscorn, Bonne Bouche, and John Powell. Among newer varieties Traveller promises exceedingly well; La Grosse Sucrée is a very handsome fruit, but not so good as it looks; Souvenir de Kieff is with me a decided failure, only slightly better than Sir C. Napier, which is soft and tasteless. Amongst other sorts I have tried and discarded are La Constante, Carolina Superba, Aromatic, Royalty, Sabreur, and Triomphe de Paris (the latter is very fine flavoured but delicate), Ne Plus Ultra and Comte de Zahn. Another Strawberry I have forgotten to mention is Princess Dagmar, very good in point of flavour, evidently with a cross of the old Hautbois in it; and Filbert Pine is worth trying in most gardens.

I was in hopes of being able to give some report of twelve seedlings kindly sent me by Dr. Roden, but the season has been so very bad for Strawberries here, especially in a new quarter recently added from a grass field, even though the top spit with the grass on it was carefully buried not far from the surface, that I cannot give a very definite report. Those which I was much pleased with were Early Filbert Pine, Scarlet Pine, Excelsior, Enchantress, Duke of Edinburgh, and Hundredfold; but the trial has not been a fair one, as after an open winter we had cold winds and bitter frosts in April and May till nearly the second week in June, then a period of dry weather for three or four weeks, followed by deluges of rain just as the fruit had set, and the quarter where these plants

were growing proved too light and sandy, and exposed too much to full sunshine. The sorts I had on trial were Sir John Falstaff, Bonny Lass, Gipsy Queen, Amy Robsart, Hundredfold, Alpha, Excelsior, Scarlet Pine, Early Prolific, Duke of Edinburgh, Early Crimson Pine, and Enchantress. They nearly all seemed to be a high quality of fruit and good bearers, but for the reasons before stated the trial has not been satisfactory.

To conclude, I do not on the whole know three better Strawberries for general purposes than Lucas, Sir Joseph Paxton, and President. I do not think Lucas is sufficiently known or grown. It is not a very large Strawberry, but possesses fine flavour, is very firm, and stands all weather well, is a sure setter, and lasts a long time in season.—C. P. P.

ROYAL HORTICULTURAL SOCIETY.

AUGUST 21st.

ONLY a little fruit was submitted to the Committee on this occasion, yet the Council-room presented an attractive appearance, for the tables surrounding the room were quite filled with plants and flowers, several of which well merited the marks of approval expressed by the Committee.

FRUIT COMMITTEE.—Henry Webb, Esq., V.P., in the chair. Mr. Burnett, The Gardens, Deepdene, sent a well-netted and good-flavoured fruit of Melon Incomparable, for which a letter of thanks was voted; a similar mark of recognition being passed to Mr. Long, gardener to J. S. Law, Esq., South Lodge, Reigate, for a very large and good seedling Melon named South Lodge. Mr. Tillery, The Gardens, Welbeck, sent a dish of very fine Victoria Nectarines, and was awarded a cultural commendation. Messrs. Kelway & Son, Langport, sent Cucumber Lord Beaconsfield, which was not considered sufficiently distinct from the old (not Rollinson's), Telegraph; also Prince of Wales, which closely resembles Daniell's Duke of Edinburgh. Mr. Morse, gardener to W. Procter Baker, Esq., Bromwell House, Burlington, Bristol, sent a seedling Grape the result of a cross between the Black Hamburg and Muscat of Alexandria: It is amber-coloured, but as exhibited was not considered to possess special merit. Louis Killick, Esq., Langley, Maidstone, sent a dish of "Stone" Apple, an early free-bearing kitchen variety which is very popular in Kent, but the fruit was not sufficiently ripe for adjudication. From the Society's Gardens came a dish of American Crab, very good; Madeleine Royal and Royal Muscadine Grapes, Trebons Onions, and a coarse-looking Cabbage named "Santung." In answer to an inquiry as to classing Rhubarb as a fruit or a vegetable, it was decided that it might be most properly exhibited as a vegetable only.

FLORAL COMMITTEE.—G. F. Wilson, Esq., F.R.S., in the chair. Messrs. James Veitch & Sons, Royal Exotic Nurseries, Chelsea, exhibited a collection of choice plants, including several Orchids. Cattleya gigas had gorgeous flowers, and Cattleyas Loddigesii and dolosa, Laelia Dayana, Dendrochilum filiforme, and others were very attractive. Lapageria alba, a small plant with handsome wax-like flowers, spoke for itself of its great value as a decorative plant. Abutilon Boule d'Or, a new free-flowering variety of great promise, was exhibited by this firm. The flowers are a soft yet bright yellow, and contrast effectively with the dark green foliage. Also a very distinct Begonia, Queen of Whites, of the B. Veitchii type, the flowers being almost pure white, large, and of great substance. A first-class certificate was awarded. A similar award was made for Oncidium protexum, very free, yellow lip margined with chestnut.

Mr. B. S. Williams, Victoria and Paradise Nurseries, staged a small collection of plants, including a splendid specimen of Ixora Williamsii, showing its floriferous character, the plant having flowered twice previously this year. It is one of the most distinct and valuable of the Ixoras. Mr. Williams also exhibited Croton fasciatus with very large Magnolia-like foliage, veined and margined with yellow; also Lilium auratum maculatum, densely spotted; and Phaius Dodgsoni. This is a fine Orchid, the growths of 2 to 3 feet high, terminating with short spikes of a dozen flowers, ivory white with pale cinnamon lips—very attractive. A first-class certificate was awarded to this plant, and a vote of thanks for the Ixora.

Messrs. Kelway & Son, The Nurseries, Langport, Somerset, exhibited spikes of fifty varieties of new Gladioluses, which produced a rich effect. A vote of thanks was awarded for the collection, and first-class certificates for the following five varieties:—Cymbaline, pink with faint stripes of rose, and white centre; the prevailing colour of the flowers being much like that of Odontoglossum vexillarium; very smooth and fine. Prince George, a rich flame scarlet with crimson base and faint white stripes; very effective. The Odalisque, creamy white, with claret throat—a smooth charming flower of great substance of petal. Charles Noble, orange scarlet, flaked and feathered with rose and white; striking. Baroness Burdett Coutts, white with a claret blotch, shaded with violet; extra

fine. Mr. Kelway also exhibited spikes of *Hyacinthus candicans*.

Mr. Long, gardener to J. S. Law, Esq., South Lodge, Highgate, exhibited several plants of *Tuberous Begonias* which had been potted from the open ground. They are seedlings raised by the exhibitor, and are dwarfier in habit and more floriferous in character than any we have hitherto seen, and are undoubtedly admirably adapted for flower-garden decoration. A vote of thanks was awarded.

Mr. J. Fraser, The Nurseries, Lea Bridge Road, London, exhibited two seedling *Ixoras*, to one of which—*I. formosa*, bright lemon-coloured, and very free—a first-class certificate was awarded. Mr. Perkins, Leamington, had a first-class certificate for *Begonia Empress of India*, rich crimson, vigorous, and fine. Mr. Perkins also exhibited some bright seedling *Phloxes*.

A "Blue Spruce"—*Colorado Menziesii*—was exhibited by Mr. Anthony Waterer of Knap Hill, Woking, and received a first-class certificate. It is free in growth, dense, and of fine glaucous tint; very distinct. Cones of several *Conifers* were also exhibited by Mr. Waterer, and flowering sprays of *Andromeda arborea*, for which a vote of thanks was awarded.

Mr. Cannell, The Nurseries, Swanley, Kent, exhibited cut blooms of double *Pelargonium Madame Thibaut*, one of the most valuable of the double varieties; also dwarf *Lobelia Brighton*, very dense and rich. A vote of thanks was awarded. Mr. Green, Holmesdale Road, Reigate, exhibited *Streptocarpus Greeni* and a rosy white variety named *Delicata*, very free and attractive, for which a first-class certificate was awarded. Mr. Green, gardener to Sir G. Macleay, Bart., Pendell Court, Bletchingly, had a second-class certificate for *Cœlogyne corrugata*. I. Anderson-Henry, Esq., Edinburgh, sent a species of *Primula* from Sikim. The plant is small, leaves much toothed, and flowers rich violet. A botanical commendation was awarded. Mr. R. Parker, Exotic Nursery, Tooting, submitted flowering sprays of *Rubus fruticosus flore-pleno*, very double, and received a vote of thanks.

From the Society's gardens, Chiswick, were exhibited *Abutilon Lemoinei*, the same as noticed in Messrs. Veitch's collection under the name of *Boule d'Or*, to which a first-class certificate was worthily awarded, a similar award being made for *Torenia Fournieri*, richer in colour than *T. asiatica*, and having in addition a golden blotch on the lip; a free-grower and bloomer, and an attractive plant. Also double *Pelargoniums*, to two of which, *Littre (Lemoinei)*, purplish crimson, and *Lafayette (Lemoinei)*, rosy salmon, first-class certificates were awarded; a splendid collection of *Dianthus chinensis*, *Hedderwigi*, and other varieties, and brilliant-coloured *Salpiglossis*.

A resolution was passed by the Committee recommending to the Council the importance of a speedy issue of the schedule of the provincial show to be held next year, in order that exhibitors may have ample time afforded them to prepare their plants.

THE MARQUIS OF BUTE'S HARDY VINEYARD.

For the last two or three years gardeners of all grades, and many others besides gardeners, have wondered how the undertaking of a hardy vineyard would succeed. It is only now that success is beginning to show itself. Previous to this the Vines have been establishing themselves; now they have passed into a fertile state. The vineyard is not at Cardiff Castle, but five miles from it at Castle Coch, which is an old British fortress, and stands upwards of 300 feet above sea level. Here the Vines are planted in an ordinary field with a common hedgerow round it. The soil is moderately light red loam not more than 2 feet deep, and rests on a rough naturally-drained bottom of limestone. The field has a very sharp slope to the south. A wooded hill shelters it completely from the north, and plantations screen it from east and west, but to the favourable south it is fully exposed; and standing amongst the Vines and looking in this direction the Severn and coast of Somerset and Devon a delightful prospect is looked upon.

Three thousand Vines were planted three years ago, other three thousand were planted or inserted as cuttings like Gooseberries this spring. All are planted in rows 3 feet apart. The oldest are supported by stakes 4 feet high. At this height the Vines are permanently stopped. Two and three shoots are taken up from each root. The sorts are principally *Gromier Noir*, black, and *Melior Blanc*, white. The first-named is the freest fruiter. All are bearing fruit, some of them having as many as seven bunches. Hardly any of the bunches are more than 1 foot from the ground. No kind of vegetation could possibly be in better health or more vigorous than the Vines. The wood is strong, very firm, and the leaves most luxuriant. Up to the present time the progress and state of the whole concern may be briefly summed up as follows:—Site the most favourable in the United Kingdom, Vines in the most satis-

factory condition, management so good and intelligent that if Mr. Pettigrew fails no other one need try on this side the English Channel.—M.

GLAMORGANSHIRE HORTICULTURAL SHOW.

THIS Show was held at Cardiff on the 15th inst. The arrangements were very complete. The whole exhibits were divided into six classes, and each class had a suitable tent to itself. Plants were generally good, cut flowers and vegetables abundant, but fruit scarce. Altogether, however, although only about £300 were offered in prize money, we have seen a much inferior display where more than double that amount was given. There was one great omission on the cards—the names of the employer and gardener were given, but where they came from there was no possibility of learning.

Fruit, as we have already said, was scarce, and this we know was alike regretted by gardeners and other visitors. There is nothing about an exhibition of this kind so attractive as plenty of fruit, and committees will find out in the long run that it is a great mistake to make fruit a minor consideration in their autumn schedules. For a collection of nine sorts of fruit only £3 was offered. Lord Tredegar was first, Colonel Page second, and Mr. W. Banes third. Each collection was composed chiefly of Grapes, Melons, Peaches, Plums, and other small fruits of average merit. For one Queen Pine Mr. Pettigrew, Cardiff Castle, was first with an excellent fruit, and although others were staged this was far in advance of them. Mr. C. P. Phillips was first for three bunches of white Grapes with Muscat of Alexandria. The three weighed 13 lbs., had well-swelled berries and good-shaped bunches, but not quite ripe. Mr. Pettigrew was second with well-finished bunches of *Poster's Seedling*. For three bunches of black Grapes Mr. Phillips was also first with *Black' Hamburg*. These were riper than the Muscates and weighed 16 lbs. Where Mr. Phillips came from we cannot say, but we heard that his place is new and his Vines only three years old, and if this is the case we may expect to hear of him again, as his bunches were much above the common size. Lady Clive, who had many prizes for other exhibits, was second in this class. For the best Melon of any kind Mr. Pettigrew was first with *Read's Hybrid*. The prizes for Peaches, Nectarines, Figs, Apples, Pears, Plums, &c., were mostly won by Lord Tredegar, Colonel Page, Mr. Barnes, and Lady Clive.

£15, £10, £5 were offered for twelve stove and greenhouse plants. This brought out four or five collections. The first prize was awarded to Mr. Pilgrim of Cheltenham; the second to Mr. Barnes; and the third to Messrs. Heath & Son, nurserymen, Cheltenham. *Dracænas*, *Crotons*, *Palms*, *Heaths*, *Dipladenias*, and plants of this description were in each of the collections.

For eighteen varieties of Roses, three blooms of each, Messrs. Davidson & Co., Hereford, were first; Messrs. Cranston & Co. of the same place second; and Mr. Treseder, Cardiff, third. Some of the blooms were very fair, but many of them too open. For twelve Teas Lord Tredegar was first, Messrs. Cranston and Co. second, and Messrs. Davidson & Co. third. These stands were much superior to the last named.

The special prizes offered by Mr. Hooper of Bath for twelve Carnation blooms, and the same number of Picotees, were won by Mr. Francis and Mr. Catley. Like all provincial shows at this season, there were immense quantities of *Phloxes*, *Pentstemons*, &c., shown. Vegetables were also shown in great abundance and of superior quality. The principal prizetakers in this class are named amongst the fruit exhibitors above named. Potatoes, although much affected with disease in South Wales, were shown in good condition.

Floral devices and decorated dinner tables were attractive. For the latter Miss Watson was first with a very elegant arrangement, Miss James second, and Miss Binns third. Where any deficiency occurred in the tents, especially the largest tent, groups of flowering plants from Cardiff Castle filled-up the blanks and added very much to the general effect.

NOTES AND GLEANINGS.

We are requested to announce that a GRAND SUMMER SHOW of the Royal Horticultural Society will be held in 1878, at South Kensington, extending over four days, from Tuesday, May 28th, to Friday evening, May 31st, inclusive. The schedule is already prepared, and may be obtained on application to the Secretary at South Kensington. We are also informed that no time will be lost in preparing a schedule of the great provincial Show to be held at Preston in June, 1878, and that the preliminary arrangements are already far advanced.

— On Saturday last an exhibition of a novel character was held in The Shrubbery, Upton, near Plaistow, Essex. The exhibitors being children connected with the South Essex Band

of Hope Union. There were 145 exhibitors, and twelve prizes were awarded; a large proportion of the plants were particularly well grown, especially the Fuchsias and Geraniums. The prizes, which were composed of useful and ornamental articles, were much appreciated by the boys and girls who were fortunate enough in winning them. The Show was very creditable indeed to the Committee, but another season it would be desirable to increase the number of prizes, as a number of well-grown plants were omitted out of the prize list altogether for want of funds. From the gardens of Mr. Alderman Finnis, Park Gate, Wanstead, came a collection of Orchids and fine-foliaged plants for exhibition, also a group from Forest House, Leyton, the residence of Mr. Fowler. And we also noted a collection of *Gladiolus* spikes sent from the gardens of F. Whitbourn, Esq., Ilford.

— MR. CUTLER, Secretary of the GARDENERS' BENEVOLENT INSTITUTION, will, we understand, attend the principal horticultural shows for the purpose of inducing gardeners to subscribe to the Institution.

— ALTHOUGH rain in the northern and some of the midland districts has been excessive, the neighbourhood of London affords unmistakeable signs of drought. The commons southward of the City, such as Clapham, where the soil is gravelly, are quite brown and have a much more baked appearance than they have previously had during the summer. The trees, such as Chestnuts and Limes, have a rusted appearance, and their leaves are commencing falling. Rain, which was needed in gardens, also fell heavily yesterday morning.

— We are informed that rain has been falling almost every day lately in the neighbourhood of Edinburgh, and that great fear is entertained that the POTATO DISEASE will be very destructive unless a sudden and favourable change should occur to check its progress. In the south the fine weather continues favourable for the grain and Potato harvests.

— OUR correspondent "B. G., Co. Down," writing on the POTATO DISEASE IN IRELAND, states that he has seen the murrain in many districts. The spring was very backward, and the seed was late planted. Much loss is anticipated amongst the late varieties, as they are now in full growth. The Skerry is almost blight proof, but cannot be cultivated except in fields or on maiden soil.

— MR. ROBERT OSBORN of the Fulham Nurseries informs us that he has purchased, as from the 1st January last, the nursery and seed business, carried on for many years at Fulham and Sunbury by his late uncle and father, William and Thomas Osborn, and his grandfather, Robert Osborn. This arrangement has received the sanction of the Judge of the Chancery Division of the High Court under whose direction and control the business was conducted for the last few years prior to the present proprietor buying the same. The style of the business will remain as before—"Osborn & Sons."

— AT the FLORAL CONCERT to be held at the Agricultural Hall on the 28th inst. prizes varying in amount from £50 to £2 are offered for flowers, fine-foliaged plants, fruits, fountains, and other subjects connected with gardening. It ought to be a largely attended assembly.

— THE *London Medical Times* states that the mines of Laurium are generally known to be largely encumbered with scoriae, proceeding from the working of the ancient Greeks, but still containing enough of sillon to repay extraction by the improved modern methods. Professor Hendrich relates that under these scoriae, for at least fifteen hundred years, has slept the seed of a POPPY of the genus *Glaucium*. After the refuse had been removed to the furnace from the whole space which they had covered, have sprung up and flowered the pretty yellow corollas of this flower, which was unknown to modern science, but described by Pliny and Dioscorides. This flower has disappeared for fifteen to twenty centuries, and its reproduction at this interval is a fact parallel to the fertility of the famous "mummy" Wheat.

— DR. GEORGE BIRDWOOD writes in the "Academy":—"The most sacred plant in the whole indigenous materia medica of India is the TULSI OR HOLY BASIL (*Ocimum sanctum*), sacred to Krishna, and called after the nymph Tulasi, beloved of Krishna, and turned by him into this graceful and most fragrant plant. She is, indeed, the Hindu Daphne. The plant is also sacred to Vishnu, whose followers wear necklaces and carry rosaries (used for counting the number of recitations of their deity's name), made of its stalks and roots. For its

double sanctity it is reared in every Hindu house, where it is daily watered and worshipped by all the members of the household. No doubt also it was on account of its virtues in disinfecting and vivifying malarious air that it first became inseparable from Hindu houses in India as the protecting spirit or Lar of the family. In the Deccan villages the fair Brahminess mother may be seen early every morning, after having first ground the corn for the day's bread and performed her simple toilet, walking with glad steps and waving hands round and round the pot of Holy Basil, planted on the four-horned altar built up before each house, invoking the blessings of Heaven on her husband and his children—praying, that is, for less carbonic acid and ever more and more oxygen. The scene always carries one back in mind to the life of ancient Greece, which so often is found to still live in India, and is a perfect study at once in religion, in science, and in art."

— We are informed that a considerable number of entries have been received for the great show to be held at Carlisle, and that preparations for the Exhibition are in an advanced state, the show-ground already being enclosed.

— THE *employés* of Messrs. James Carter & Co. were entertained by the firm to a dinner at Sydenham on Saturday last. Forty-four of them—twenty-two from the Holborn establishment and the same number from the Forest Hill Nursery—having previously engaged in a cricket match, when the countrymen proved the victors. The proceedings were much enjoyed by the large assemblage.

— "G. A.," writing to us on *PYRETHRUM AUREUM LACINATUM*, states that in their early stage the plants were more quick in growth than the familiar Golden Feather. They were planted out in June in much better condition than Golden Feather, not from any greater care being taken of the young plants, but clearly from the great freedom of growth of the new variety. Both varieties are beautiful, yet their beauty is of a different description. Golden Feather is deservedly popular from its close compact dwarf habit and bright yellow foliage. The Cut-leaved on the other hand has very finely-divided foliage, and though it is perfectly golden in colour, its many divisions cause the golden tint to be softer, less bright, contrasting only moderately well with *Lobelia*, but admirably with bolder foliage, as *Iresine* Herbstei and massive succulents.

— MR. KING in his volume entitled "The Southern States of North America," observes that "the fitness of Florida for the growth of TROPICAL and SEMITROPICAL FRUITS is astonishing. Not only do the Orange, the Lemon, the Lime, and the Citron flourish there, but the Peach, the Grape, the Fig, the Pomegranate, the Plum, all varieties of berries, the Olive, the Banana, and the Pine Apple grow luxuriantly. Black Hamburg and White Muscat Grapes fruit finely in the open air; the Concord and the Scuppernong are grown in vast quantities. The Guava, the Tamarind, the wonderful Alligator Pear, the Plantain, the Cocoa Nut, and the Date, the Almond and the Pecan, luxuriate in southern Florida and the Indian River country. Within these boundaries a tropic land, rich and more strange, will one day be inhabited by thousands of fruit-growers, and where beautiful towns and perhaps cities will spring up. A good tree will bear from 1000 to 3000 Oranges yearly. Some trees at Mandarin have produced 5500, many of the Oranges weighing nearly a pound. One young grove on Indian River, with 1350 trees, produced in a season 700,000 Oranges. They were sold for \$25 to \$68 per 1000 case, and netted to its owner over \$20,000. Col. Heart's grove nets him from \$12,000 to \$15,000 yearly. Dr. Moragne has a grove that nets him over \$20,000 per annum. Only one man is required to attend one of these groves, who requires one or two negro men to help to pick and market them. The culture of Oranges will certainly become one of the prime industries of Florida."

HOYA CARNOSA.

It may perhaps interest some of your amateur readers to know that this plant succeeds perfectly as a greenhouse climber. There is a plant here, trained to the back wall of a cool greenhouse, which occupies about 25 square feet of wall, and I have to-day counted 105 fully expanded trusses of bloom upon it, besides numerous other trusses in all stages of development. This plant receives little care or attention. It is growing in a narrow border composed principally of loam. It has water whenever the other plants in the border appear to require it, and this, with an occasional tie or the cutting away of a

rampant shoot, constitutes the sole attention it receives. The ventilators of the house in which it is growing are open to their full extent day and night during the summer months, and in winter the temperature often falls to within a degree or two of the freezing point, yet the plant flourishes admirably, and the last two seasons has made sufficient growth to cover double the space it now occupies, but which is all that can be afforded for it. Its wax-like flowers are extremely beautiful.—A. E., *Hicanton Satchville*.

HYDE PARK.

NOWHERE have flowers and flower beds so many admirers, nowhere are they better appreciated, and nowhere are they more skillfully arranged and better managed than in the London parks. The high-class mode of decoration adopted in all the chief parks render them much more than pleasant places for the promenade of the million, although that is their chief object—an important object, for the issues resulting when art in its higher forms and Nature in her most attractive aspect are blended have a much deeper effect than merely gratifying the eye. The London parks afford lessons in garden decoration which are learnt by passers-by of every grade, and hundreds of gardens are consequently made more attractive and homes more enjoyable by the artistic employment of plants and flowers.

Geraniums continue, and are likely to continue, to be the most popular of bedding plants. In Hyde Park there is a choice selection of them. Varieties new and old are employed, and the public can see for themselves which are the more likely to satisfy in private gardens. A great advantage is that every sort is legibly named, which renders the beds additionally interesting. The Geranium beds commence near the Marble Arch, and are continued along the narrow eastern enclosure next to Park Lane. The Geraniums have passed their best, but are still beautiful, and a glance at some of the varieties may be useful during this the period of propagating. Some of the beds are partially shaded by neighbouring trees, and this with close planting, rich soil, and a season when showers have been tolerably frequent, and intense heat has not prevailed for many consecutive days, have promoted the free growth of the plants and somewhat diminished their season of beauty.

Amongst the crimson-scarlet varieties General Outram and Wellington are two of the finest bedders. They are free growers, form a tolerably level surface, and produce numerous and fine trusses of extremely rich colour. A trifle lighter in colour and brighter is Sir Henry Stanhope; this is a very fine bedder, compact in habit, free, and brilliant. Brutus is very good, but not equal to those named, and Milton of the same type of colour is irregular in growth. The older variety Bonfire is a blaze of beauty, and must not be lightly discarded. It has not large trusses, but they are numerous, and the colour is extremely rich. Of the brighter scarlets Chunder Sen is dwarf and lively in colour. A. Rogers is rather dull and irregular in growth, and Maud Holden is a little shaky. There are no really good pure scarlet beds. As a rosy crimson Amy Hogg is yet good; but the best bedder of this colour is Fire King, a dwarf-growing Noregay variety with a profusion of fine trusses all of the same height. Pioneer, a dwarf variety with cherry crimson flowers, is very distinct; it is more novel, perhaps, than effective. Different in tint to any of those named is Jealousy, a slight tint of yellow playing on the soft scarlet petals is very pleasing. It has well-formed flowers, but evidently requires rather poor soil and an exposed sunny position to bring it to perfection as a bedder. It is a free grower, but apt to become a little irregular in over-rich soil; it is much admired by visitors. Amongst the lighter colours Amaranth, rosy lilac, is very good; and of the rosy pinks Mrs. Gibbons is certainly one of the best. Mrs. Turner, Mrs. Holden, Lucy, and Princess of Wales are very fine, surpassing Sibylla, Triomphe, and Master Christine. There is not a good bed of white Geraniums, La Vestale being irregular in growth, and the only good white with salmon centre as a bedder in the Park is Maurice Bernadine, which is dwarf and floriferous. The Geraniums are surrounded with a ring of blue Lobelia edged with Golden Feather.

A few mixed beds afford an agreeable change, such as Iresine Linden and Gazania splendens; silver variegated Geraniums and dwarf Ageratums; and Iresine Linden and golden-leaved Geranium. Some beds have a ring of Mesembryanthemum and an edging of Lobelia, but the Mesembryanthemum is too dwarf for such a position. The fine specimens of Bays, Palms, and Cordylines disposed down the centre of the lawn add con-

siderably to the beauty of this portion of the Park. It is here, too, where the "carpet beds" are to be seen, and it is indisputable that they are more lasting in beauty than the Geraniums. The artistically arranged beds of dwarf foliage plants will be attractive for weeks to come, and long after the Geraniums have assumed a seedy and weedy appearance.

The carpet beds in this Park have never been better than this year, and their condition reflects much credit both on those who have designed the patterns and those who have "worked them out." In some of the beds the designs are bold and simple, in others more intricate and flowing. Some of the beds have flat smooth surfaces, others have raised lines and figures and sunken panels. It is useless attempting to describe minutely what is indescribable, but an outline of the general character of some of the beds may be briefly submitted. One of the "bold and simple" beds has squares and inter-fitting triangles of Coleuses on a ground of Golden Feather. The bed is margined with Alternantheras and edged with Echeverias. The next bed is more elaborate. It has a centre of Iresine Linden somewhat in the form of a Maltese cross, scrolls of Alternantheras amena and paronychoides on a groundwork of variegated Mesembryanthemum, and angles of green Sedum, edged as before—very chaste. Another bed is of a Turkey-carpet pattern, the centre and edge being formed of the green Gibraltar Pennyroyal (*Mentha Pulegium gibraltaricum*), the greater portion of the bed consisting of an intricate design of Alternanthera on a groundwork of Golden Feather and Sedum glaucum. The next is a panel bed, the raised portions being composed of Pachyphyton, Mentha, and Iresine, with sunken panels of Leucophyton Browni, the whole having a band of Golden Feather and an edging of Lobelia. It is a novel and effective bed, somewhat marred, however, by the Lobelia. Another panel bed has an elevated design of Iresine; raised cushions—diamonds and circles 18 inches in diameter—of Mentha; sunken panels of Leucophyton and Antennaria tomentosa, and bands of Golden Feather and Alternanthera—effective. Near it is a bed having central squares of Golden Feather surrounded with interlocking bands of two distinct Alternantheras; angles of Antennarias, a band of Lobelia (too tall), and an edge of Echeverias—distinct and novel. The next bed represents a flowing tracery of Golden Feather and Alternanthera, the bands being about 6 inches wide; angles of Sedum acre elegans, sunk panels of the Cobweb Houseleek, and an edging of Alternanthera—very chaste. Such are a few typical beds. They are large and the plants are in excellent colour and condition, the only failure, perhaps, being the Lobelia, which is not dependable for this artistic and elaborate style of ornamentation. The visiting public linger over these beds admiring and criticising. The style is undoubtedly popular and is well carried out.

Along the Knightsbridge side of the Park comes another change, and an agreeable one. The long stretch of irregular lawn—green and in perfect order, dotted with fine trees at irregular intervals and having isolated specimens of Yuccas, Palms, and Cordylines, with mop-headed Acacias (*Robinia inermis*) and evergreens, a few groups of subtropical plants, and here and there bright beds of Geraniums—has a cool refreshing appearance, which is very acceptable after the glare of the Geraniums and the trim formality of the carpet patterns. This is a delightful and enjoyable portion of the Park, but not more so than the tropical forest scene known as the Dell.

This is the western extremity of the decorations, and is a worthy finish to the varied attractions of the Park. From the walk fronting the Dell a sloping lawn 5 or 6 yards wide descends to the water—a moat-like stream 12 or 15 feet wide, which forms a semicircular boundary to the semitropical grove. On the near bank of the stream the Royal Fern with Grasses and Sedges luxuriate. On the opposite bank are bold Ivy-clad knolls surmounted with Monstera and Phormiums. Beyond is an irregular expanse of turf of triangular shape, the ground rising almost abruptly from the base to the distant apex. Sheltered by surrounding banks of Rhododendrons and shaded by the thinly disposed trees, the "tropicals" are artistically grouped. Prominent is a grand specimen of the Fan Palm and a few scattered specimens of Phormiums, Monstera, and other isolated specimens. Near the sides are bold groups of Musas and Cannas, and in the centre a grove of towering Cordylines. This dell, viewed from any point—from the lower ground looking upwards or from the higher looking downwards—is extremely beautiful and contributes greatly to the attractions of the Park.

Several beds which were formerly in the interior of the Park

have been turfed over, and the change is an improvement. The fringe of flowers noticed on the sides of the Park is sufficient, and a large expanse of grass in the interior is more in keeping with the nature of the Park, and renders the gardenesque portion more distinct and decided. Never has the Park looked better than during the present season; and the chief authorities at the Board of Works, Mr. Gibson the Superintendent of the Park, and Mr. Chamberlain the practical Manager, are to be congratulated on its excellent condition.—J. W.

PENTSTEMON CYANANTHUS (AZURE-FLOWERED PENTSTEMON.)

A MOST beautiful blue-flowering perennial kind, bearing a spike of bloom more than a foot long. It is an inhabitant of the upper valleys of the Plate River, in the Rocky Mountains, where seeds were collected by Mr. Burke. From these seeds



Fig. 35.—*Pentstemon cyananthus*.

plants were reared by Messrs. Lucombe, Pince, & Co., in whose nursery at Exeter the plants flowered in the open air in May, 1849. The species is quite hardy, and a great acquisition to our flower borders. It is desirable to have a succession of young plants always on hand, which may be raised by cuttings early in the summer, and which should be sheltered in a frame during the winter, but with as much exposure as the weather will allow.

* ARTIFICIAL MANURES FOR ROSES.

I REGRET that "PACER'S" inquiry how much mineral manure I would apply to Roses at this season should have accidentally remained for a week unanswered. He must remember, in the first place, it is an experiment. As I said before, I have no direct experience with Roses, though I have with other plants. Trusting to this analogy I would mix intimately three parts of best superphosphate of lime with one part of muriate or sulphate of potash, and of the mixture I would sprinkle a quarter of a pound round each Rose, say within a radius of 20 inches from the stem. If rain does not come to wash it in water should be applied slowly and repeatedly. A little of the lime will remain in any case on the surface undissolved. If the soil is poor and the Rose not succulent in growth, half an ounce of nitrate of soda or of nitrate of

potash (saltpetre) might be added to each Rose; but as a rule I would defer this last ingredient till spring, when that quantity might be given several times in conjunction with the mineral manures above referred to.

The controversy between "A RETIRED GARDENER" and myself may now be regarded as closed, neither, I daresay, having expected to convince the other, but having written for the judgment of the public. But as "A RETIRED GARDENER" asks me what I think of 80 tons per acre of horse manure applied by a market gardener, I will only say that I do not doubt it was a very proper quantity for the crop to which it was given and the crops which would follow. But the subject of discussion has been guano and nitrate of soda, which involve totally different principles and practice.—J. B. K.

DISTINGUISHED BOTANICAL TRAVELLERS.

No. 2.

JOHN FRASER.

AMONGST those who have enriched our gardens by their discoveries in other lands few have been more persevering and more successful than this celebrated traveller. He was the man to whom Europe is indebted for the magnificent hybrid *Rhododendrons* that of late years have caused the "American grounds" of the Old World to heave with a perfect ocean of beauty and grandeur. Who, then, knowing this, could look on such scenes of splendour as are afforded by large collections of these gorgeous shrubs, and not venerate the name of John Fraser? But it was not alone the *Rhododendron Catawbiense* (which is the basis of almost all these hybrids) that he discovered and introduced to this country, it is to him we are indebted for *Andromeda floribunda*, and all that is interesting in *Azaleas*, *Kalmias*, *Andromedas*, *Vacciniums*, *Magnolias*, *Menziesia globularis* and *ferrugines*, many species of *Oaks*, *Pinus*, *Phlox*, *Oenothera*, and a list too long to enumerate here, amounting to somewhere about 220 distinct species of American plants, all collected under hardships and privations crowned with less remuneration and with more hopes disappointed than any collector either before or since has ever experienced. He started on his perilous undertaking single-handed and alone, with no society to support and no patron to encourage him; his labours were labours of love, and his reward—a too-much-forgotten name.

This extraordinary man was a native of Scotland; he was born in 1750 at Tomnaclloch, near Inverness. His father was a highly respectable farmer, and occupied the same land which his ancestors had done for many generations previously. How his early life was spent cannot now be ascertained, but it is supposed that he arrived in London about the year 1770, being then in the 20th year of his age. During the early part of his life he laboured under a delicate state of health, being, in fact, affected with consumption. Finding his health declining, his friend, Admiral Campbell, then commanding the Newfoundland station, induced him to accompany him to that colony, with the view of arresting the progress of the disease; he accordingly left England, and arrived in Newfoundland in 1780. He had not been long there before he found himself thoroughly restored, and he devoted his time to exploring the botanical productions of that country. He was always an ardent lover of plants, and here he found an extensive field and new objects for admiration, among which he remained till 1784. He had now acquired such a taste for discovery, and such a habit of restlessness, which so prevented him from settling down to any fixed occupation, that in 1785 he set out on a journey to the Southern States of North America, and during two years he was engaged in investigating the botany of that country, which resulted in many valuable additions being made to the collections at home. He again left England in 1788 on a second expedition to the Southern States, and this was attended with as great success as the former, for on this occasion also he sent home many new and valuable plants. While on this journey he formed an intimacy with the elder Michaux, who had then just entered on his labours as collector for the French Government.

Between the years 1789 and 1796 he twice visited North America, still with the same object in view, and still with the same success. During this period he traversed the Alleghany Mountains, penetrated into several of the Indian settlements, and exposed himself to an amount of privation and hardship such as few other men could have undergone. And here, be it remembered, the America of seventy years ago was not the America of to-day; much of the soil that is now traversed by the loc-

motive, and gladdened by the joyful sounds of progress and civilisation, was then the hunting field of the Indian and the scene of many a bloody conflict. Where now the ploughshare and the pruning-hook pursue their quiet and ennobling course the scalping-knife and tomahawk savagely reigned. Few now can realise what a traveller like John Fraser had then to undergo.

After his return to this country in 1796 he visited Russia, taking with him a large collection of plants, the result of his labours in America. These he submitted to the Empress Catherine, who so highly appreciated their value and esteemed the character of the man that she requested him to set his

own price upon them, which was accepted. After the death of the Empress Catherine he was requested again to visit Russia, when he received commissions from the Empress Maria to supply further collections to the Imperial Gardens of Gatschina and Perlorskoe; and such was the favour with which the imperial court regarded him, that in 1798 an ukase was issued, signed "Paul and Maria," appointing him their botanical collector. This gave a fresh impulse to his untiring spirit, and in 1799 he for the sixth time crossed the Atlantic, accompanied on this occasion by his son John, to prosecute in the Northern and Southern States that discovery in which he had already been so successful. Having on this expedition



Fig. 86.—MR. JOHN FRASER.

penetrated to the far west, it was on the summit of the Great Roa, or Bald Mountain, that he discovered the *Rhododendron Catawbiense*. Speaking of this occasion the son told the writer of this, "I shall never forget so long as I live the day we discovered that plant. We had been for a long time travelling among the mountains, and one morning we were ascending to the summit of the Great Roa, in the midst of a fog so dense that we could not see further than a yard before us. As we reached the top the fog began to clear away, and the sun to shine out brightly. The first object that attracted our eye, growing among the long grass, was a large quantity of *Rhododendron Catawbiense* in full bloom. There was no other plant there but itself and the grass, and the scene was beautiful. The size of the plants varied from seedlings to about 2 feet in height, the habit being evidently diminutive from the high altitude at which they grew. We supplied ourselves

with living plants, which were transmitted to England; all of which grew and were sold for five guineas each."

On the termination of this journey through the States they visited Cuba in 1800, but on account of the war which then existed between Spain and Great Britain they were obliged to procure passports and travel as American citizens. On the voyage they were wrecked on a coral reef, about forty miles from land and eighty from Havannah. For six days they, with sixteen of the crew, endured the greatest privations, until picked up by a Spanish boat and conveyed to land. Through the interest of the American consul they were allowed to proceed overland to Havannah, where they met with the celebrated travellers Humboldt and Bonpland, from whom they received the greatest kindness, and to whom they communicated the nature of their journey. Humboldt relating in confidence to the Spanish Governor that they were Englishmen and bota-

nical collectors, he replied, "Though my country is at war with England she is not at war with the labours of these men." They pursued their course unmolested, visited the mountains of Cuba, and discovered many new and valuable plants, among which was *Jatropha panduræfolia*. Having made his collections they returned to America in 1802, and thence embarked for England, but after being some time at sea the ship sprang a leak, and was obliged to put into Port Masson in New Providence. On arriving in England a greater disappointment awaited Mr. Fraser, for on landing he heard that the Emperor Paul was dead, and the Emperor Alexander refused to sanction the engagement entered into by his predecessor. In the Dowager Empress Maria, however, he met with a friend, for she fully discharged his account, and, in addition, presented him with a handsome diamond ring. When in Russia in 1796 he procured the Black and White Tartarian Cherries, which are sometimes called Fraser's Black and Fraser's White Tartarian Cherries, and introduced them for the first time into this country.

In 1807 he made his seventh and last voyage to America, again accompanied by his son, and again he was successful in many new discoveries, with which the son returned to England, leaving the father to prosecute his discoveries. He again visited Cuba, and in 1810 returned to England. During this last journey he had the misfortune to fall from his horse near Charleston, and broke several of his ribs. From this accident he never fully recovered, and, after forty years of unwearying zeal and activity he died at Sloane Square, Chelsea, in April, 1811.

After his second return to England from America Mr. Fraser established the "American Nursery" in Chelsea, as a receptacle for the plants which he discovered and introduced. This nursery was situate on the east side of the present Royal Military School, and extended over twelve acres.

Thus lived and thus died John Fraser, F.L.S., one of the most zealous and disinterested, and at the same time most successful, botanical collectors which this country has ever had.

CLAYCROSS (DERBYSHIRE) FLOWER SHOW.

THE twentieth annual Exhibition of the Claycross Floral and Horticultural Society was held on the 14th inst. in the beautiful park-like grounds adjoining the residence of Charles Binns, Esq. This has now become one of the greatest exhibitions in the midland counties, and the Show of the 14th inst. was quite equal to any of its predecessors. It was feared that the long-continued depression of trade in the colliery districts would tell against the success of the Show, and that there would be fewer visitors, and consequently the money taken at the gates would be less than usual. However, the state of trade did not affect the Exhibition, for the numbers were on the increase. Last year it was estimated that upwards of 14,000 people visited the tents, and as the money taken at the gates this year exceeded that of 1876, the number of visitors could not have been less than 15,000.

The Exhibition took place under three spacious tents, which formed three sides of a square. The side tents had tables running down the centre, which were filled with plants of every shape, size, and hue, and the benches down each side were devoted to fruit, cut flowers, and vegetables. The end tent was a circular one, and contained a fine collection of plants sent by the Duke of Devonshire from his rich stores at Chatsworth, and also the collections of twenty plants open to nurserymen and gentlemen's gardeners. The exhibitors were divided into five classes, the first, second, and third being chiefly cottagers and farmers, the fourth amateurs residing within twelve miles of Claycross, and the fifth was open to all subscribers of £1 and upwards. Here liberal prizes were provided, for the amount offered in this class alone was upwards of £167.

In the collection of plants sent from Chatsworth, not for competition, were several *Disa grandifloras*, a fine *Anthurium Scherzerianum*, *Dipladenias*, *Bougainvillea glabra*, several fine *Ericas*, and also some excellent Palms and Ferns, including a very fine *Adiantum farleyense*, also the *Ouvirandra fenestralis*, the singular Lattice Plant.

For the collection of twenty plants, including eight stove or greenhouse plants in bloom, six fine-foliage or variegated plants, and six exotic Ferns, for which prizes of £25, £20, £15, £10, and £5 were offered, there were only three competitors. Messrs. E. Cole & Sons of Withington, near Manchester, secured the premier prize with some magnificent plants, including a fine *Statice profusa* upwards of 3 feet in diameter, *Ixora coccinea*, *I. coccinea superba*, a remarkably well-grown plant; several *Ericas*, some fine Palms, *Crotons*, *Cycas revoluta*, and noble Tree Ferns. Mr. Tudgey, gardener to T. F. G. Williams, Esq., of Handwick Grange, near Worcester, obtained the second prize

with some fine *Ericas*, Tree Ferns, a very fine *Pandanus Veitchii*, and some well-grown *Ericas*. Mr. J. House of Peterborough was placed third. He had some very excellent stove and greenhouse plants, such as *Clerodendron Balfourii*, *Stephanotis floribunda*, *Phormium tenax variegatum*, *Croton irregularis*, and some good Ferns.

For the collection of six stove or greenhouse plants in flower Mr. Ward of Riddings House was first; Mr. Reynolds of Oyston Hall second; and Mr. Egglestone, Claycross, third. Mr. Ward had some excellent plants in his collection, including *Plumbago capensis*, a very fine *Statice profusa*, a capital *Ixora Williamsii*, two fine *Ericas*, and a *Dipladenia amabilis*. Mr. Ward was also first for ornamental or variegated-foliage plants, six distinct species; and in the group of not less than twenty plants arranged for effect on a table 3 feet wide, Messrs. E. Cole & Sons were first; Mr. Beard, nurseryman, Stonegraves, Chesterfield, second; Mr. Ward, Riddings House, third; Mr. John House, Peterborough, fourth; and Mr. Proctor, Chesterfield, fifth. In the smaller collection of plants Mr. Ward had the lion's share of prizes.

Of hardy fruit there was a very creditable display, Gooseberries and Currants being fine and abundant. Mr. Froggett, gardener to the Hon. F. C. G. Hunlake of Wingerworth Hall, won the first prize with a fine collection of hardy fruit, but the crowd was so great that we could not get near the stand to examine the dishes. For the best collection of hothouse fruit Mr. Ward of Riddings House was first, and at the distance we could see some fine bunches of Grapes on the tray. For black and white Grapes Mr. Ward was the first with excellent bunches of Muscat of Alexandria and Black Hamburg, the two latter bunches weighing about 9 lbs. No other Grapes were worthy of notice.

Of Roses there were some good stands. For eighteen distinct varieties Mr. House of Peterborough came in first with a magnificent box, and Mr. Frettingham of Beeston was a tolerably good second. There were also boxes of twelve and sixteen distinct sorts shown, which contained some noble specimens. Of Dahlias there were some excellent stands, those sent by Mr. Haslem of Hardstof being specially noteworthy. Hard bouquets and dinner-table flower stands were well done. The flower-garden designs came in for a large share of attention by the visitors, but the barbarity of the arrangements almost gave us the headache. Marigolds were specially well grown, as were also the Hollyhocks.

Of vegetables there was a grand assortment, Potatoes being fine in quality and clear in the skin. Upon the whole the generality of the exhibits were good, and the Show in all respects was a great success. All praise is due to Mr. Stollard, the Secretary, for his arduous labours in bringing about such satisfactory results.

WARDIE HOUSE,

THE RESIDENCE OF MISS HOPE.

THIS is situated on the seaside and about three miles from Edinburgh. The house and pleasure ground cover a space of two acres surrounded by a high wall. The view from the house is beautiful. The Firth of Forth, and the Fife coast, and the distant hills afford a fine subject for an artist. The flower plots are laid out on the turf. Many borders are filled with Roses and all sorts of spring, summer, and autumn-flowering plants, and I may say there is not such another choice collection in the neighbourhood of Edinburgh. The plots in the grass are chiefly filled with hardy plants. Some of the figures are divided into patterns with dwarf Thyme, Heaths, &c.; some are filled with the scarlet Phlox Drummondii, *Cuphea platycentra*, *Lobelias*, &c. One plot took me very much by surprise: it was a circle, and filled with *Orchis maculata superba* and *Spiræa Filipendula plena*, and the contrast between the white and purple was very effective. Miss Hope has between one and two hundred plants of that beautiful *Orchis*. The spikes are very strong, and the flower part of them is upwards of 6 inches high, and it is worth going a long way to see. This plant is very scarce about Edinburgh. I never saw it till last year. The common *O. maculata* I have seen forty years ago, and it is worth growing as a variety. I saw at Wardie a fine spike of *Yucca gloriosa*, one of the best I ever saw. From top to bottom of the flowers it is 4½ feet fully. Miss Hope grows a great quantity of Hellebores, some of them very rare. Taking the place as a whole it is far more interesting to me and many others than a modern flower garden in all its glory. The latter comprises twenty to thirty different varieties, the former hundreds. There are no forcing houses, only a greenhouse for Geraniums, &c.

To persons interested in hardy flowers Wardie is worth seeing, and Miss Hope is most courteous and affable to any respectable person who is fond of flowers; and I never met

with any lady who knows plants so well and very few gentlemen. I never go there but I must let her know, and if she is not engaged is sure to come out and walk round her flowers, and if I look at a plant she is sure to ask if I will accept of a part of it. Outside the pleasure ground in a field there are nearly two acres of ground for fruit and vegetables, and this appears to me a far better arrangement than having a hotch-potch garden with vegetables, fruit, and flowers.—J. ADDISON, *Ormiston, Edinburgh.*

NATIONAL CARNATION AND PICOTEE EXHIBITION.

WHEN I sent a few notes and prize list of the Show in the Botanic Gardens, Manchester, I stated that some of the growers were not ready at all, and none of them at their best; it was therefore decided amongst the growers to hold another Show later, and for this purpose a large room in the centre of the city was engaged. Thursday the 16th was the day fixed, and a really fine exhibition was the result. Taken as a whole it was thought to be the best ever held by the Society. The flowers exhibited gave evidence of careful culture, most of them being large, full, and beautifully marked. The same schedule was retained as on the previous occasion. Class A is for twelve distinct Carnations. It will not be necessary to give a list of the names, as the best varieties have been so often quoted in previous numbers. Mr. Ben Simonite of Rough Bank, Sheffield, was first, Mr. Jonathan Booth of Failsworth second, and Richard Gorton, Esq., The Woodlands, Eccles, third. In the corresponding class for Picotees Mr. Simonite was first, Mr. Booth second, and Mr. T. Mellor, Ashton-under-Lyne, third. The next class is for those whose collection does not exceed four hundred pairs, twelve Carnations, nine at least dissimilar. The first prize was gained by Mr. Gorton; Mr. J. Chadwick of Dunkinfield second, who held the same relative position in the class for twelve Picotees. In the class for growers whose collections do not exceed 150 pairs Mr. Wm. Slack of Chesterfield gained the highest award for six Carnations, and Mr. Wm. Taylor of Middleton the second. For six Picotees the honours were reversed, Mr. Taylor being first and Mr. Slack second.

Come we now to the classes, which is always a most interesting part of the exhibition. In the Scarlet Bizarre class of Carnations Mr. Booth was first, second, third, and fifth, and Mr. Simonite fourth. In Crimson Bizarres Mr. Simonite gained all the five prizes—a sufficient testimony to the high quality of the flowers he has introduced. In Pink and Purple Bizarres Mr. Simonite was first and third, Mr. Mellor second, Mr. G. Rudd of Bradford fourth, and Mr. Booth fifth. In Scarlet Flakes Mr. Booth was first, second, and third, Mr. Simonite being placed fourth and fifth. In Rose Flakes Mr. Simonite was first and third, Mr. Booth second, Mr. R. Gorton fourth, and Mr. Rudd fifth. In Purple Flakes Mr. Simonite was first, second, and third, Mr. Booth fourth. In Picotees the best heavy-edged Red was staged by Mr. Mellor; Mr. Simonite second, and Mr. Booth third, fourth, and fifth. In light-edged Red Mr. Simonite was first, Mr. Gorton second, Mr. Booth third and fourth. In the heavy-edged Purple class Mr. Simonite carried off the first, second, third, and fourth prizes, and Mr. Mellor the fifth. In light-edged Purple Mr. Simonite was first and second, Mr. Booth third and fourth. In heavy-edged Rose or Salmon Mr. Simonite was first, Mr. Gorton second, Mr. Mellor third, Mr. Booth fourth, and Mr. W. Bradshaw fifth. In light edged Rose or Salmon Mr. Simonite was first, the remaining prizes being won by Mr. Booth. The premier Carnation in the Exhibition was a grand specimen of Admiral Curzon (Easom) from Mr. R. Gorton. The best Picotee was a very perfect bloom of Mary (Simonite) from Mr. Booth.

I am indebted for the above list of prizes to R. Gorton, Esq., who states that the Show was a most satisfactory one, there being two long tables well covered with blooms. Another correspondent says that some of Mr. Simonite's seedlings were grand. It is very disheartening to him to feel that very possibly many of them will be killed by the smoky sulphur-loaded atmosphere of Sheffield before they can be introduced to the public.

Notwithstanding all that has been said about the greater interest taken in florist flowers north of the Trent, it does not appear that the number of exhibitors was so large at the northern shows as they were in London, nor do they stage a greater number of flowers. I hope that next season some of the great societies, such as the Royal Horticultural and Royal Botanic, will include florist flowers in their schedules and arrange a goodly number of classes for them. Auriculas about the 20th of April, Tulips for the 20th of May, Pinks the 20th of June, Carnations and Picotees about the 20th of July, Gladioluses and Phloxes the 20th of August, Dahlias the 20th of September. The 20th of October will rather puzzle the florist, but the noble Chrysanthemum will do well to fill up the 20th of November. If those in power will kindly note the above dates it will save some trouble afterwards. Prizes for Carnations and Picotees

have been offered the first week in July, and on one occasion on the 30th of June. It is not possible to show good flowers at that time, unless the season should be exceptionally early.—J. DOUGLAS.

STANSTEAD PARK AND RUTLAND PARK NURSERIES.

At the metropolitan shows and at the meetings of the Royal Horticultural Society the firm of Messrs. John Laing & Co. is frequently represented, and always in a creditable manner. The senior member of the firm, Mr. John Laing, knows, as the popular phrase goes, a "good thing" as well as most of his fellows, and of some particular plants few have a better selection than he has. Of Phloxes, for instance, there is no better collection in the south than at Stanstead Park, and of Golden Bicolor Pelargoniums some of the first varieties of the day had their origin in this nursery. These with Caladiums, Pentstemons and Tuberous Begonias are, perhaps, the specialties of the nursery, which, however, is very general in its character, and is furnished with selections of most of the popular families of plants for in and out-door decoration. Fruit trees and Roses are also largely and excellently grown by the firm.

The Stanstead Park Nursery, the head-quarters of the firm, is not extensive. It may, perhaps, consist of half a score acres of land which is not of the most fertile nature; hence all the fruit trees, Roses, choice shrubs, &c., are grown in the Rutland Park Nursery—the "head-quarters," containing plantations of coarser trees and crops; also glass structures and collections of plants in pots. There are about a dozen span-roofed houses besides pits and frames, and all full. One house is wholly occupied with Tuberous Begonias, to which Mr. Laing has latterly been devoting special attention. The double varieties, Gloire de Nancy, Balsaminiflora, and Lemoinei, are growing and flowering freely, the flowers appearing to improve as the plants arrive at maturity. The single variety, Paul Masuriel, is a giant in its family, stately in growth and with flowers 3 to 4 inches in diameter. Oriflamme is very bright and free, as also are William Pfätzer, Acme, and many others. Unnamed seedlings are growing by thousands, some of the flowers expanding being of considerable promise. A new house—a low, light, span-roofed structure, 70 feet long by 20 wide, is occupied by Vines in pots ripening their canes close to the glass, Caladiums and other fine-foliaged plants, the shade of the Vines just suiting the Caladiums. The stock of these plants is very extensive and varied. There is a demand for them in summer for furnishing purposes, but they are principally grown for distributing in a dry state during their dormant period. The new varieties—Madame Alfred Bleu, Aristide, Souvenir de Madame E. André, Madame Laforge, Pyrrhus, Romeau, and Paul Veronese—are great acquisitions; and not much less beautifully marked, veined, and marbled are such sorts as Felicien David, Lalagii, Louis Duplessus, and Madame de la Deransaye. The golden varieties—the royal group—Princess Royal, Princess Teek, and Princess Alexandra are also attractive. Another house contains Palms—three thousand small plants of *Areca lutescens*, also large batches of *A. rubra*, *A. aurea*, small *Dicksonias*, *Lomarias*, &c., and in an adjoining structure is a fine stock of the distinct Maiden-hair, *Adiantum macrophyllum*. The plants have been grown without the aid of artificial heat and are in superb health. In this house several plants of *Todea (Leptopteris) superba* are becoming established after their long journey from the Antipodes. The plant stove is filled with *Gardenias*, *Crotons*, *Dracenas*, and a general collection of ornamental-foliaged plants. *Dracena hybrida* (Veitch), a beautiful plant when well grown, is in excellent condition. A large house is devoted to Cucumbers. Stanstead Rival—this is a very fine Cucumber, the result of a cross between Telegraph and Blue Gown. It is of large size yet not coarse, prolific, of a fine dark green colour, smooth, straight, and of excellent flavour. The bed containing the roots is surface-dressed with spent hops, which arrest evaporation and afford a medium which the roots apparently enjoy. Such is a brief sketch of the houses and their contents. The collections of plants outside demand notice, notably the Phloxes, Pentstemons, and Golden Bicolor Pelargoniums.

PHLOXES.—Extremely fine are these; in fact, no plants in their season, and which can be grown so easily, can produce a more imposing effect. They are striking by their bold spikes of handsome flowers, yet without the slightest approach to gaucheness. Their colours are most varied, ranging from

purplish crimson to pure white, almost every intermediate shade being represented, many of the varieties having shaded petals and distinct dark centres, and their perfume is delightful. The plants are grown in 8-inch pots placed in the open air, and receive much the same treatment as Chrysanthemums—minus, of course, stopping their shoots. No attempt has been made to grow large specimens similar to some that Mr. Laing has exhibited in previous years, but the object has been to produce medium-sized handy decorative plants, such as would fittingly adorn conservatories, corridors, and halls, and such plants that may be equally well grown in any well-managed garden. The plants now flowering so finely were in quite small pots last year at this time, and only good soil and ordinary attention in watering them have been given to bring them to their present excellent state. Such plants are worthy of being extensively grown, and could not fail to add to the attractiveness of any conservatory during the summer months. They contrast admirably with ornamental-foliage plants, and afford an agreeable change to Geraniums, Fuchsias, and Achimenes. Phloxes in pots require no “shelves near the glass” for growing them—no shading nor fumigating, a timely stake to each plant and good support being the chief and simple essentials of culture. In borders they are beautiful, but to have them in fullest beauty a few should be grown in pots, and no summer-flowering plants will give a better return for the necessary labour bestowed on them. A few of the finest varieties are the following:—Valentin, rosy salmon; Gustave Duchesne, purplish crimson; Alfred Crousse, salmon suffused with purple; La Croix de St. Louis, lilac, edge of petals white; Madame Antin, crimson; Victor Lemoine, rich rosy salmon; The Duke, lilac, shaded rose; George Grieve, rosy salmon; Man of Kent, rosy carmine; Mons. Crousse, rosy crimson; Mons. Malet, lilac, white centre; Mons. Taillard, reddish salmon; Mrs. Dombrain, white, crimson eye; Queen of Whites, French white; White Lady, very pure; Souvenir des Termes, white and purple, fine; J. M. Purvis, white, crimson eye; Delicatum, white and lilac; and Madame la Comtesse de Turenne. Those named are all superior; only the prevailing colours are given, but most of them have distinctly coloured eyes. They all belong to the decussata or late-flowering section, and are more vigorous in habit, more lasting in beauty, and more generally satisfactory, at least in the southern counties, than are varieties of the suffruticosa or early-flowering group.

PENTSTEMONS.—Of these there is an excellent collection, and not many autumn-flowering plants are more elegant in habit and more beautiful for border decoration; they also produce an excellent effect when grown in pots. The flowers of some of the varieties are almost as large and quite as richly spotted as Foxgloves, and the colours are extremely varied, including crimson, scarlet, purple, lilac, rose, and white. Although not quite hardy they are as easily cultivated as Phloxes, their chief requirements being good soil, an open situation, a few stakes, and an adequate supply of water. Small plants struck in the autumn and wintered in small pots in cold pits and frames flower freely and attractively during the following season. They are admirable for large beds, lines, and mixed borders in gardens, and these are many, where flowers are particularly desired from August until November, and where Geraniums, varied as they are, are not considered the “be-all and end-all” of garden ornamentation, and where “carpet beds” are not regarded as the climax of the gardener’s art. Pentstemons are effective without being formal, elegant in habit, sprightly, and cheerful. A few excellent varieties are here named—Count Munster, white throat; James Rothschild, crimson purple, white throat; J. H. Stanley, red, white, and claret; Lady Coutts Lindsay, pure white; Lord Carington, purple, peach, and white; Mrs. G. Patrick, bluish purple, white throat; Novelty, pink, blotched crimson; The Bride, white and rose; W. E. Gumbleton, purplish rose and white; W. M. Dolben, purplish red and white; William Paul, rosy crimson; Black Knight, maroon and white; Brilliant, rosy purple and white; Emilie Chaté, soft rose and white; and Mrs. J. Douglas, claret and white. The above are established varieties. Some fine newer sorts are Lord Salisbury, Midhat Pasha, Dr. Masters, Raphael, Maréchal MacMahon, Richard Wallace, Empress of India, Robert Whyte, and Chloris.

GOLDEN BICOLOR GERANIUMS.—Some years ago Mr. Laing set up an ideal standard to be attained in the foliage of this very effective section of a popular family of plants, and he has about attained it. Stout leathery foliage of circular outline, clear zone and margin, and sharply defined and rich contrasting colours, were the objects which have been steadily kept

in view, and the result is varieties which make their way out of the nursery as fast as they can be propagated. No Geraniums are more easily cultivated than these, for they grow as freely as the green-leaved kinds, while their brilliant golden colours and rich chestnut zones render them singularly gay. Their chief requirements are plenty of light and air, with good soil and support to keep their roots moving. Open-air culture, with only slight shelter in extremely inclement weather, is the mode adopted during the summer to bring the plants to perfection. They are now being partially rested and matured preparatory to being pruned and propagated. Some of them are highly effective bedding plants, notably Maréchal MacMahon. This is the best of all for beds, the growth being free yet compact, and the colours bright and distinct. The newer variety Exquisite is also very telling when planted out. This is a splendid variety, and if surpassed by any it is by John Jenner Weir, which is strikingly uniform and rich in colour. Japan is a fine new variety, as also are Australian and Richard Thornton. The Czar is the darkest of all. The Shah, Warrior, Prince Bismarck, Count Munster, Mrs. F. J. Horniman, and W. E. Gumbleton are all distinct and good.

Besides the plants named there are collections of nearly all other flower-garden and greenhouse plants, including a considerable stock of the new Chrysanthemum Golden Empress of India, which is an admirable grower and very sturdy in habit. Another plant having its “home” in this nursery must not be passed in silence—Fuchsia Lord Beaconsfield. It is the result of a fortunate cross between *F. fulgens* and one of the garden varieties, and has received a first-class certificate from the Royal Horticultural Society, also at the Royal Botanic Society and at the Crystal Palace. It is a distinct and striking variety, with immense flowers with rosy carmine tube and bright carmine corolla. It is a strong grower and most profuse and persistent bloomer, rendering it valuable for decoration, and it can scarcely fail to become very popular as a “market plant.” Yet another plant worthy of note is a new double *Petunia Souvenir de Chiswick*. It is rosy purple striped with white, and has crimped petals, and is extremely effective.

RUTLAND PARK NURSERY.—This is twice the size of the Stanstead Park Nursery, and the soil and situation are specially suitable for the cultivation of fruit trees and Roses, both of which are extensively grown. Finer trees—standards, pyramids, and trained trees of Apples, Pears, Plums, Apricots, and Cherries—could not be desired than the robust short-jointed stock in this nursery. Roses are grown by thousands, and thrice the usual number are being budded this year, so great has been the demand. That rich dark Rose Louis Van Houtte is unusually brilliant on this soil. Perhaps the finest bloom of it ever exhibited was staged by Mr. Laing at the Bickley Show. There is a “great run” on this variety, also on Belle Lyonnaise, which has all the good properties of Gloire de Dijon with greater purity of colour. All the most popular varieties of Roses are extensively grown, and the second is a fine one. Ornamental trees and shrubs also thrive well; indeed, the nursery is an excellent one, and is in capital order, and a meed of praise is consequently due to the foremen of the firm—Mr. Badman at Stanstead Park, and Mr. Wakelin at Rutland Park.—VISITOR.

FLOWER FARMING IN FRANCE.

In the south of France the Jasmine is cultivated in enormous quantities for perfumers’ use. The cuttings are planted in rows nearly 3 feet apart and 2 or 3 inches from each other; during the first year vegetables of certain kinds are grown between the rows. In the second spring the Jasmynes are fit for grafting. Ordinary cleft grafting is practised, the stocks being headed down to an inch or two above the soil. A good workman, aided by a woman to tie the graft, will work one thousand to two thousand Jasmynes a day, the man earning 5 francs, and the woman 1½ franc a day. In July and August flowers are produced, which must be gathered perfectly dry; and if there is seen during the night to be any danger of rain, men are sent into town at three o’clock in the morning to summon the women to the farm to pick the flowers before the rain comes.

The proprietors of the flower farms at Grasse have the right to use the sewage of the town, which is collected in cemented tanks and distributed by irrigation. One thousand plants of Jasmine in good soil will furnish in the second year after grafting about 120 lbs. of flowers. In subsequent years the production of flowers is very much larger, so that from 3500

to 4000 lbs. are raised on an acre. The general duration of a plantation of Jasmine is from fifteen to twenty years, and the net annual receipts from an acre of well-established plants is about \$450 if the season prove favourable. This industry gives employment to thousands of labourers, both men and women, in the sunny fields of France.—(*Cultivator*.)

BOOKS.

The Royal Parks and Gardens of London, their History and Mode of Embellishment, &c. By NATHAN COLE, Kensington Gardens.

WE are pleased to see that the communications from Mr. Cole published in our Journal have been republished by him in this handsome volume. It is full of useful information on modes of embellishment, arrangement of colours, and the propagation and culture of the plants employed.

Ferns, British and Foreign, &c. By JOHN SMITH, A.L.S. New and Enlarged Edition. Hardwicke & Bogue, London. Small 8vo., pp. xv. and 450, with a plate and very numerous woodcuts.

THIS, as the title implies, is a new edition of an approved and very useful publication. The first edition appeared in 1866, a second in 1876, and we have now a corrected reprint showing that out of the 2646 known and well-distinguished species, exclusive of varieties, we have more than a third in cultivation. We are quite rejoiced to see that the author, notwithstanding increasing infirmity, is still so actively employed about his favourite Cryptogams.

The work consists of a very interesting history of the development of Fern cultivation up to the time when Mr. Smith was no longer able to carry on personal investigations with the microscope, then of an explanation of the terms used in describing Ferns, a matter quite indispensable to the majority of cultivators. To this succeeds the main object of the work—viz., an enumeration of the genera with distinctive characters, to the understanding of which the numerous and nicely executed woodcuts are absolutely necessary, as in cases where the generic characters are founded on the venation it would be scarcely possible, except to advanced botanists, without their help to grasp with certainty the distinctions, even with the aid of the preceding explanatory division. A most useful chapter follows giving the meaning of the generic names, which when once realised are a very great help to the non-classical cultivator. A valuable chapter is added on the cultivation of Ferns, succeeded by a list of authors and books quoted in the work, together with a very perfect index, the want of which so often takes so much from the usefulness of many an excellent work. The specific characters are not given, as it would have increased the bulk of the book so much as to make it very expensive, and where these are desired there are many excellent works to which reference may be had, and which are indicated everywhere throughout the synonyms. From the very nature of the work it is obvious that it does not admit of many extracts; instead, therefore, we make some observations on points to which the author refers but briefly.

But little is known of hybridity in Ferns. The most notorious case is that of *Gymnogramma*, where numerous varieties, if not hybrids, spring up abundantly in cultivation. One of the most singular cases is that communicated from Philadelphia by Mr. Robinson Scott, an apparent hybrid being produced between *Camptosorus rhizophyllus* Lk. (*Antigramma rhizophylla*, J. Smith), and *Asplenium ebenum*. An account of this is given in the Journal of the Royal Horticultural Society, n.s., vol. i., page 137, with figures, together with suggestions for the production of hybrids, which if successful would amply reward the experimentalist. Mr. Smith gives us an account from Leszczyc Suminski of the male and female fructification produced on the prothallus of the germinating Fern. A little nice manipulation might transfer the spermatozoids of one Fern to the female embryo of another, but no one seems, as far as we have heard, to have been successful in such attempts. The position of the bodies in question makes it improbable that the spermatozoids should often be transferred naturally, and that such is not in general the case may be inferred from the fact that the species or forms which from time to time appear in cultivation, always prove either mere varieties or well-known species which have been accidentally introduced. The multitudes of forms which occur in sale catalogues are often mere abnormal conditions, and it is

curious that where a portion of a frond only is abnormal spores taken from that portion will reproduce the peculiar form. Mr. Smith makes some valuable remarks as to the result of halving or quartering the prothallus with the production in each part of a perfect embryo, while in general one only is fertilised; but this is the less surprising since the observation of Dr. Harlow, that a new frond is sometimes produced on the prothallus without fertilisation.

One great difficulty which often occurs in the raising of Ferns from spores is the occurrence of a minute species of mould, which soon spreads over the whole pot and destroys the crop. This will be remedied in many cases, if the first appearance of the mould is watched, by simply sprinkling a little well-washed white quartzose sand on the infected prothalli. The black mould belonging to the genus *Fumago* which occurs on Fern fronds is very troublesome, even in their own native locality. Like other species of the genus it follows the attacks of aphides or cecidi, or where a honey-like deposit is formed on the leaves. A careful observance of the early stages of the fungus will at once suggest the proper treatment. If allowed to gain much head it is very difficult of eradication. Ferns are not troubled much with epiphyllous Fungi in cultivation. *Uredo filicum* is, however, sometimes very troublesome, but mostly to Ferns in open-air cultivation. In such cases the only remedy is the removal of all infected fronds and burning them.

We conclude our remarks with a short extract relative to the black fronds which sometimes occur on Ferns in cultivation, and the more so because it is suggestive as to the too familiar spot in Orchids. "In order to raise vapour a practice prevails with many cultivators to throw water over the hot-water pipes or flues. There is no objection to this provided the air out of doors is warm, but in the winter season it is often done in the evening, in order to counteract the dryness of the air caused by the extra heat of the pipes required at that season. The house then becomes filled with vapour, which coming in contact with the glass of the roof condenses and falls in a shower of cold drops on the plants; at the same time the temperature of the house rapidly falls, thus causing black fronds, spots in Orchids, and such-like complaints." We cannot too cordially recommend this excellent little work to the notice of our readers.

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

HOULLETTIA PICTA. Nat. ord., Orchidaceæ. Linn., Gynandria Monandria.—Flowers cinnamon and yellow. "H. picta was discovered by Schlim in New Grenada, along with other very similar species of the genus, collected up to an elevation of 4000 to 6000 feet above the sea. It was first flowered at the celebrated Orchid garden of Consul Schiller at Hamburgh, and later at Farnham Castle, from whence the specimen here figured was obtained."—(*Bot. Mag.*, t. 6305.)

IRIS SPECULATRIX. Nat. ord., Iridaceæ. Linn., Triandria Monogynia.—Flowers lilac and white. "It was discovered in April, 1874, by a Chinese workman attached to the botanical garden of Hong-Kong, on a hill facing the sea between Victoria Peak and Mount Davis in that island. Its general habit is more like that of one of the Cape or Angolan *Moræas* than that of the ordinary *Iris*es of the north temperate zone, but in structure it belongs clearly to the small group of crested *Iris*es, of which *I. japonica*, commonly grown in gardens under Ventenat's name of *I. fimbriata*, is the oldest and best known representative. Of this group seven species are now known, of which two are North American, and the others all Japanese, Chinese, and Himalayan. For the fine living plant from which the present plate was made the Kew collection is indebted to Mr. C. Ford of the Hong-Kong Botanic Garden. It was received in April, 1877, and came into flower immediately after its arrival in this country. The plant is not likely to prove hardy in England."—(*Ibid.*, t. 6306.)

TULIPA UNDULATIFOLIA. Nat. ord., Liliaceæ. Linn., Hexandria Monogynia.—"It was discovered many years ago by M. Boissier on the Tartali-dagh, just above Smyrna, but was only brought into cultivation two years ago by Mr. Elwes. It flowered at Kew early in May of the present year. This spring Mr. Maw has procured a good supply of bulbs from Boissier's original station, which he has distributed with his customary liberality."—(*Ibid.*, t. 6308.)

TILLANDSIA USNEOIDES. Nat. ord., Bromeliaceæ. Linn., Hexandria Monogynia.—"This, the Spanish Moss, Old Man's Beard, and Long Moss of the southern United States and the West Indies, is well described in Sloane's 'History of Jamaica,'

as a 'mossie plant . . . with stalks the bigness of a thread, consisting of a thin skin, whitish, as if covered with a hoar frost, having within that a long tough black hair, like a horse-hair . . . very often a yard long, hanging down on both sides from the branches of the trees they adhere to, being curled, or twining and winding within another, and making a show of an old man's beard (whence the name), or as if they were made to climb, which I never saw they did.' Further on he says, 'It is used to pack up anything which otherwise may easily be broken, as cotton is sometimes made use of with us;' and, again, 'the inward black hairs of this Moss's stalk are made use of by the birds called watchpickets for making their curiously-contrived nests hanging on the twigs of trees.' To this description I have little to add, except that the Spanish Moss is a very widely distributed plant in the hotter parts of America, from Carolina to South Brazil, and on the Andes, hanging in bunches sometimes many yards long from the branches of trees. It has frequently been sent to England as packing for Orchids, but rarely alive, and it is not till quite lately that it has been successfully cultivated at Kew, from plants imported as packing from Jamaica. It now thrives in a damp stove, growing on pieces of Tree Fern and other substances, and flowering in spring." (*Ibid.*, t. 6309.)

PEAR.—*The Peach Pear*.—"We adopt the above name, given to us by Dr. Hogg, for this useful but not very handsome summer Pear, with some hesitation, since other pomological authorities inform us it is not that variety. It was received under the name of Beurré Giffard, but that is certainly an error, the Beurré Giffard being a more highly-coloured pyriform fruit. The Pear ripens about the middle of August. It varies somewhat in shape, some of the fruit examined being slightly narrowed towards the base; the largest measured $2\frac{1}{2}$ inches across near the upper end, and nearly 3 inches in length, both eye and stalk being set in shallow depressions, the eye closed, and the stalk of moderate thickness, and about $1\frac{1}{2}$ inch long. The colour of the skin is pale green, changing to yellow green, and freckled over with light brown spots, russety around the stalk. The flesh is melting and juicy, with a brisk and sweet pear flavour. Altogether the variety is a summer Pear of considerable merit." (*Florist and Pomologist*, 3 s., x., 157.)

PARAFFIN VERSUS ONION MAGGOTS.

LAST year my Onions were very much affected with the maggot, in consequence of which I lost the crop. This season I have beds in three different places, one lot of which began to show symptoms of the maggot. I thought I would try the new receipt, and I made rather a strong mixture of two pints of paraffin to twelve gallons of water, which I poured on one rod of land in the last week of May. In a few days I had expected to see Onions, maggots, and everything else killed, but to my surprise the maggots were as lively as ever. In a fortnight from the first dose I gave them another of the same strength, but all to no purpose. As a proof I drew some Onions, took out the maggots, and immersed them in paraffin for two or three minutes, took them out laid them down, when they went wriggling off very little if any the worse for it. So I believe the maggot will stand a larger quantity than the crop.—A. FAE, York.

CHAPTERS ON INSECTS FOR GARDENERS.

No. 19.

THOUGH my recollections do not extend far back towards the opening of the century, I can perceive a notable difference in the attitude of gardeners towards insects. Insect pests used to be to many such a constant worry that the very name of insect was abominable to them. You might exhibit to them some beautiful moth in the Lepidopterous order we are now considering, and even if assured that the species injured neither flowers, fruit, nor vegetables, they would yet hardly give it a good word. But though our gardeners destroy by expeditious methods far more insects than did their predecessors, with an increase of entomological knowledge there has come about a different feeling, and the majority will admit that the insect tribes by their appearances and motions give a charm to the country scene which one could ill spare, while even in the garden there are some which are positively beneficial and a host of others comparatively harmless.

The latter may be asserted of the lively moths called the "Foresters" and the "Burnets." Why "Foresters" I scarcely know, since they do not particularly haunt forests, though the

caterpillars feed often in sheltered spots; but the "Foresters" themselves love to disport in the sunshine of July. Kensington Gardens had, no doubt, a very different aspect to what it now has when Rennie saw the common Forester (*Procris Statice*), flying on the bank of the Serpentine. Even the Sorrel on which the caterpillars formerly fed seems to have now disappeared from the locality. Occasionally, however, this moth has been seen of recent years hovering over railway banks to the north of London, and in some counties it is rather common. We have two other British species of some rarity. All the three as hauntings of flowers come now and then into gardens, displaying their wings of greenish gold which only expand about an inch. The caterpillars are peculiar, being short, somewhat woodlouse-shaped, and downy or bristly. Also in those gardens near Clover fields do the conspicuous but small moths of the family of the *Zygænidæ* show themselves during the summer, but the caterpillars chiefly feed upon the species of Trefoil and the Vetch called *Heppocrepis comosa*. These caterpillars are not so stout as are those of the *Procridæ*, and mostly yellow-studded with black, the silken cocoons which they spin in June being very observable on the stems of plants, or on palings, in places where they occur. Excepting the Irish Burnet (*Z. Minois*), which has all the wings dull red, the others present a very similar aspect, the blackish green of the wings being adorned with red spots varying in number and also in their arrangement. The commonest of our six species is *Z. filipendulæ*, which shows itself by hundreds on the chalk slopes, as in Kent and Sussex.

A small family, the *Nolidæ*, contains a little moth frequently seen sitting on the leaves of trees in gardens, the fore wings being raised and set out triangularly, and when startled the insect hops rather than flies to another resting place not far off. This rejoices in the name of "The Short-cloak," or in Latin form, *N. cucullatella*. The caterpillar, which is seldom noticed, is dingy brown and hairy; but although it occasionally feeds on Plum trees I have not found it included in any list of our insect enemies. There are three more British species the caterpillars of which seem to give the preference to Oak as their food plant. In the family of the *Lithosidæ*, which follows, there are eighteen British species probably, the bulk of them having a strong family likeness. Many of them furnish illustrations of what is called mimicry, for when the moths are at rest the wings are wrapped round the body, and from their form and usual colouring the eye at first is apt to take one of them for a curled-up leaf or a bit of a twig. On tapping a hedge with a stick during their season we may often notice them dropping to the ground and lying there as if dead, through which device they possibly delude birds that would otherwise seize them. The familiar appellation, Footmen, given to these did, as I suppose, originate in their habit of so falling at the foot of the by-passer. Some of the caterpillars have yet to be discovered, but it may be assumed that the unknown as well as the known are not obstructive to horticultural success, for it seems to be the habit of most to feed on tree lichens, or sometimes on the leaves of the trees on which the lichens are growing. A good representative of the family is *L. complanula*, with smoke-coloured fore wings and pale yellow hind wings, common near London in many places during the summer. Another species presents to view what the old naturalists would have called a "freak of Nature." In this, the Red-necked Footman (*L. rubricollis*), all the wings are black, but the collar is red, thus contrasting with its brethren, which generally exhibit hues of brown, yellow, or grey, sometimes with black markings. The "Footmen" caterpillars are now and then blown off their food plants in high winds during early summer, and they have a dingy appearance, being dotted over with hairs, as if they were trying to cultivate a hairy coating like their relations the "Tigers," but could not quite succeed in so doing.

The moths last referred to afford an example of what is not uncommon in entomology, the transference of the name which has been given to certain prominent species in a family to the whole of that family. It may, indeed, be argued by some hereafter that the name "Tiger" befits the group from the ravenous disposition of the caterpillar, but it doubtless arose from the tiger-like markings of four of the moths. The *Cimnabar* (*Euchelia Jacobæa*) receives its name from the Ragwort, on which it feeds, seldom flying more than a few paces from the common or chalk-pit where the caterpillars have fed up, and where in August they may be noticed busily stripping that plant, offering, one would think, by their black and yellow markings a good bait to birds. Mr. Newman pronounces the

Scarlet Tiger (*Callimorpha dominula*) to be one of the handsomest of insects British or foreign. It is far scarcer than the preceding, yet, like it, is usually found on or near waste ground, where the caterpillar feeds on the Hound's-tongue. Of special importance to us, however, are those Tigers which in their larval state frequent gardens. There are three that are capable of doing some amount of injury, the largest species being the Great Tiger (*Chelonia gaja*), the veritable "woolly bear" of juveniles, and which one often sees in suburban roads performing perilous journeys across, seeking a change of diet probably. The long hairs, which are of a silky hoariness in the adult caterpillar, prove, when the caterpillar has rolled itself into a ball, an admirable protection from birds. It is one of the species that hibernate in the larval stage, and of the numerous changes of skin (amounting to eight, I think), part are gone through in the autumn and part in the spring. The leaves of the Hollyhock are much liked by this caterpillar, but in the garden it will attack various plants. The Buff Ermine (*Arctia lubricipeda*) is not properly a garden insect, but whenever Docks and Chickweed are allowed to grow in the vicinity of gardens the caterpillars of the species readily shift themselves to cultivated ground. This caterpillar is palish in colour with light brown hairs; that of the White Ermine (*A. menthastri*), where the moth is lighter in colour, is much darker, and though this occurs in all sorts of places during the autumn, it is quite at home in the flower or the kitchen garden. Both species spin their cocoons before winter, and these should be looked up and destroyed during the dull season, as every female killed means the extinction of two or three hundred eggs. Most of the moths of this family are sluggish, but not so the Clouded Buff (*Euthemonia russula*), which flies on heaths during the day pretty briskly.

The family of the Lipariidæ contains several species of importance, which may now be passed over with slight mention, as they have been fully spoken of in a previous series of papers. Two species which do much harm on the Continent to the fruit trees are the Gipsy (*Liparis dispar*) and the Brown-tail (*L. chrysorrhæa*). The former of these was once of not unfrequent occurrence in Britain, but it has now become quite a rarity; the latter, though local, is abundant where it is found, yet seems now with us to restrict itself to the Whitethorn and Sloe. Its next-of-kin, the Gold-tail, is generally distributed, and the caterpillar feeds also on the Whitethorn; in disposition, however, it differs from the Brown-tail, for while the caterpillars of *L. chrysorrhæa* construct a common abode in which each brood tarries during bad weather, the individuals belonging to *L. auriflua* construct separate cocoons in the autumn, where each caterpillar leads a hermit life until the spring. The rather inconspicuous imago of the Pale Tussock (*Orgyia pudibunda*) is produced from a gay caterpillar of light green with black bands, having brushes or pencils of hair, which originated the name "Tussock" applied to this and some similar species. Hop-pickers call this caterpillar the "Hop-dog," though it is not limited in its choice of aliment, as it visits numerous trees and shrubs. To this family also belongs that funny little moth, the Vapourer (*O. antiqua*), and if the caterpillar feeds on a great variety of plants in shrubberies and gardens, by that circumstance it is prevented from doing much harm to any one species, for it is not excessively common. The eggs may easily be destroyed in the winter, as they are deposited on the cocoon by the wingless females. It is one of the very few insects that has for centuries braved the noise and smoke of the city of London, breeding on the Limes, which struggle for life amid the gloom of some old churchyards there. Lastly, it should be noted that in the family Lipariidæ we have this peculiarity, that the pupa or chrysalis is hairy as well as the caterpillar.—J. R. S. C.

SILVER VARIEGATED DECIDUOUS TREES.

THE golden and scarlet variegation among trees is justly admired and eagerly sought by connoisseurs. Of equal beauty, although of softer brilliancy, is the silver variegation. The silver-frosted vase has its own charms, even in contact with that which is golden-chased. Among these silver trees the following are worthy of notice:—

Variegated Ash-leaved Maple (*Acer Negundo variegatum*) is well known, and has a pure white variegation, covering half the leaf. Its effect upon a lawn is particularly fine, and it is highly valued in England and one or two localities in this country. It suffers fatal injury from our summer suns, and is not much used here except as a pot plant.

Variegated Ash is a very beautiful variety, not yet known in Europe, but recently sent to Flushing from Japan by Thomas Hogg. Its white is well defined and pure, covering nearly half the leaf and fairly rivaling the preceding in its beauty. It will be a very valuable addition to this class of trees.

Another variegated Ash from Japan is a new and curious variety, with its irregular blotching of silver or gold. Being of dwarf habit, it would find a striking position in front of a mass of dark-foliaged shrubs.

Variegated Japan Dogwood (*Cornus brachybotrya variegata*) was also sent from Japan by Thomas Hogg, and promises to be the most striking and valuable of the silver variegations. Its hardiness has been thoroughly proved in this country, both in winter and summer. The white, or light yellow, is clear, pure, and well defined, covering half the leaf, and a group of it on a lawn would be a striking object. It is very difficult to propagate, and must remain rare some time.

Another variegated Dogwood is the *Cornus mascula variegata*, which runs from silver to gold, but of a decided and permanent colour. It is a tree of moderate growth, scarcely above the largest of the shrubs. Its fruit, like that of the common variety, is esteemed by many. It formed a pleasant addition to my daily dessert when spending a few months in Lausanne, Switzerland, in the markets of which it was regularly offered for sale.

Silver-edged Oak (*Quercus pedunculata variegata*) is a very beautiful variety, clearly and permanently marked with a well-defined margin of white, which the hottest sun does not affect.

Spotted Oak (*Quercus pedunculata punctata*) is spotted with white points, and is somewhat changeable in colour.

White-and-green Oak (*Quercus pedunculata albo-viridi*) is irregularly blotched with white, changing more or less into gold.

Variegated Cherry (*Cerasus Mahaleb variegata*) has downy glaucous shoots, ovate glaucous leaves, and a white margin. It is a striking variety.

Silver Medlar (*Mespilus argentea variegata*). The leaves have a faint pink tinge, with a silver-marbled variegation.

Mottled Elm (*Ulmus campestris punctata variegata*). A mottled variety, with broad blotches of silvery white following the nerves.

White-edged Elm (*Ulmus montana albo-marginata*). Deeply silver-variegated towards the top and margins, with reddish leaf stems.

Japanese Silver-leaved Maple (*Acer polymorphum albo-variegatum*). A variety with deeply cut leaves, variegated with white, yellow, and green, and apparently of very recent introduction.

The preceding are a few of the best variegated trees, and are all perfectly hardy against our coldest winters.—S. B. PARSONS (in *Rural New Yorker*).

NOTES ON VILLA AND SUBURBAN GARDENING.

NOW that flower gardens are at their brightest and the various colours are clearly defined it is the time to make notes of proposed alterations, to prepare plans, and to renew fresh stocks in accordance with the requirements for another season's supply; therefore push forward the propagation of all kinds of bedding plants as rapidly as possible. Cuttings of almost everything invariably strike more readily and have time to become sturdy and well hardened-off if inserted now than when inserted later in the season. The considerable improvements made in carpet bedding during the last three or four years have caused a very noticeable falling-off in both the Gold and Silver-variegated sections of Geraniums, nevertheless they are still preferred by many amateur growers who do not possess the convenience of keeping the more tender subjects so necessary for the arrangements of carpet beds during the long winter months; whereas Geraniums are kept alive with a modicum of trouble, requiring just merely heat enough to prevent damp and to exclude frost.

The present season around London has been very favourable to the growth of our various bedding Geraniums, and the plants are now just in the prime for yielding cuttings. These should be tolerably hard and firm, as gross watery shoots are liable to damp-off. But in selecting cuttings the beauty and immediate effect of the beds must not be destroyed; a judicious thinning in the case of Geraniums is the best, and let this be done so evenly and regularly that anyone not seeing the operation performed could not tell from whence a cutting was removed. We generally go over the sorts required and take the cuttings off with a sharp knife, and place them in a basket and take them to the potting-shed, where the base of each shoot is cut clean across and the bottom leaves are removed; in the case of very strong cuttings of Geraniums the leaves are further

removed halfway up each cutting. When the whole of one sort required are made they are placed for awhile in the sun in order that the cut may become dried of its sap; this causes them to heal and emit roots the sooner.

The modes of striking bedding plants and stowing them away for the winter are many, each plan having certain advantages. One of the oldest plans, and still perhaps one of the best for amateurs if there is plenty of room, is to strike the cuttings in an open and well-prepared piece of ground, and when well rooted (which is generally about six weeks after the cuttings are inserted) to pot them singly in small pots, and place them on shelves near the glass to remain throughout the winter. This is a very safe way and one which we can highly recommend. Where a very large number are required pots are often dispensed with, but a quantity of roughly-made boxes are in readiness all of one uniform size, the sizes varying according to taste; but we have had them made 2 feet long, 10 inches wide, and about 6 inches deep. In preparing these boxes to receive the cuttings place about an inch deep of rubble over the bottom of each box, then the roughest of the soil, filling in the remainder with fine soil, and placing a layer of sand over the surface. The cuttings are then inserted, each box containing about sixty. A good watering is then given to the boxes, which are placed in an open position out of doors, where they are left to remain until there are signs of much wet or frosty nights, when they must be removed to their winter quarters. Where a large quantity of Geraniums are required this undoubtedly is one of the best means of storing away large numbers in a limited space; and temporary stages under Vines and other places have oftentimes to be utilised to hold them. There is another useful method adopted—that is, inserting four or five cuttings in 60-sized pots, and allowing them to remain in these pots until February before potting them off. The same remark applies to cuttings placed in boxes; they will require potting-off about February, in order to attain full-sized plants for planting at bedding-out time. Commence propagating the choicest Tricolor and other variegated Geraniums first, as these take the longest to root, following with the other sorts; then with Verbenas, Coleuses, Alternantheras, and such-like subjects, finishing off with the more hardy Calceolarias. The following sorts are among the best Geraniums:—Bedding Golden Tricolors: Mrs. Pollock, Sophia Dumaresque, Lady Cullum, and Sir Robert Napier; Golden Bronze: Beauty of Calderdale, Perilla, Bronze Queen, and Mrs. John Lee; and of the plain Yellow section Crystal Palace Gem and Robert Fish; White-edged varieties: Queen of Queens, Flower of Spring, Bijou, and Little Trot; and of the bedding Noddy and Zonal sections: Vesuvius, Star of Fire, Waltham Seedling, Wellington, Warrior, Lady Kirkland, Lucius, Rose Bradwardine, Bonfire, H. M. Stanley; and Master Christine, the old Christine, and Amaranth among the Pinks. Madame Vaucher and White Clipper are the best white-blooming varieties.

Verbenas are not so extensively grown now as some few years since, still they are associated with the memories of past-gone days, and are cherished accordingly. They are best struck in seed pans or pots of 6 or 8 inches in diameter, giving plenty of drainage, and filling the pot with some light soil in which a large proportion of leaf soil and silver sand have been incorporated. Take off short-jointed growths and insert them thickly all over the pots, water them to settle the soil, and keep close and shaded for a few days, when air can be admitted. These will not require potting or pricking-off as in the case of Geraniums, but will remain in these store pots, and furnish numerous cuttings, which will strike most readily in the spring and make healthy plants. Petunias may be treated in exactly the same way. Both the double and single varieties are old associates and bloom very freely; the double variety Mrs. Wilson is one of the best for beds. The clippings or trimmings of numerous kinds can be all utilised as cuttings instead of being thrown to the rubbish heap.—J. W. MOORMAN.

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

HARDY FRUIT GARDEN.

THE time has again arrived when it is necessary to gather the crops of hardy fruits and to store them away for future use. It is well to have the tables and spaces in the fruit room thoroughly scrubbed. The walls ought also to be lime-washed, to make all sweet and cause a healthy atmosphere. Everything ought to be quite dry before the fruit is taken into the house. Some persons gather the fruit before it is ripe; but this is quite a mistake, as it neither keeps well nor is it of good flavour when gathered thus. The experienced cultivator can tell by the appearance of the fruit whether it is ready to gather or not; but a good test is to cut one (not the ripest), and if the pips are brown the fruit may safely be gathered. The more choice Apples may have the crops gathered at twice, or even a third gathering may be made. In the case of Pears this is quite necessary, as otherwise the crop would not last nearly so long. The dry weather is seriously affecting the quality and weight of the crop. It may seem

scarcely possible to our northern friends who are having so much rain and complaining of the want of sun when we make this statement; but so it is. As we write this there are threatening clouds gathering in the west, but most of the farmers would rather that it did not rain for at least two weeks, as they are in the midst of the Wheat harvest. The same circumstance that is checking the growth of our fruit has encouraged clouds of aphids to settle upon the Plum trees, where they have increased to an alarming extent. We never saw this pest attack the Privet before, but the hedge is quite smothered with it. There seem to be several species of aphids. Those that attack fruit trees differ considerably from the green fly of our soft-wooded greenhouse plants, and also of the Auricula and Carnation. Our Auriculas are quite close to Morello Cherries, and although the aphids from the latter frequently drop upon the plants, they wander about but do not settle to extract any nutriment from the leaves. Syringing the trees with a solution of soft soap and a little tobacco liquor added to it is the best way to clear the trees of the insects.

As opportunity offers we are cutting the young wood away from all the trees in the garden where it is not required for a crop next season. The method of doing this has been described in previous numbers, both as regards wall fruit and that on the open borders. Much of the fruit is attacked with the Apple-boring maggot. It does most damage to the Apples, but Pears and Plums suffer to a considerable extent from it. The fruit ripens prematurely and drops from the trees. On examining any of the specimens a small hole may be observed, and if this is traced the maggot may be found, and most frequently at the core. It is a wise plan to gather all the fruit that is attacked and have it destroyed. Strawberry plants recently put out are making rapid growth, but it has been necessary to keep the plants well supplied with water. Considering that Raspberry bushes like a deep moist soil the growth has been very satisfactory, owing possibly to the continued wet weather when the young growths started.

PINES.

As long as the nights continue warm and the sunlight is sufficient we will not apply artificial heat. Much can be done in this way by careful and patient attention to ventilation, especially at closing time, and this ought to be as early as possible in the afternoon. Either immediately before or after shutting up the house should be damped, and if this is done sufficiently the moisture will gather thickly upon the glass, which to a considerable extent prevents the sun from injuring the plants. If the plants intended to fruit next year are not yet potted into their fruiting pots no time ought to be lost in potting them. Complaints have been made this year about the plants not throwing up their fruit when expected to do so, but instead starting into a second growth. This is most likely to happen if the pots are not quite filled with roots before the plants are put to rest, and much also depends upon the manner of starting them and also the time. We have given the different details of this work at the proper time; at present our work is to see that the plants are well matured by being thoroughly exposed to the sun, and as much ventilation as possible must be insisted upon. The temperature of the house ought not to be less than 65° at night (of course it is as high as that now without artificial heat); by day 10° to 15° higher than this is desirable, but during hot days the thermometer may range even 20° higher, and that with plenty of ventilation. Those that will be started about Christmas should now be very near their resting period.

CUCUMBERS AND MELONS.

It is now a good time to sow seeds to produce plants for bearing Cucumbers at Christmas. The plants ought not to be allowed to come early into bearing, nor ought they to produce much fruit if it is intended that they are to bear well from Christmas onwards. Munro's Duke of Edinburgh is one of the very best for bearing at that time in the estimation of some, others still hold to Telegraph as being the best; with a true stock of Telegraph there will not be much danger of failure. We fancy that the half-span house is as good as any other for growing winter Cucumbers, others prefer a lean-to. Whichever form is adopted, a main consideration is to have plenty of hot-water pipes, so that the temperature during a severe frost may be kept up to 65° without overheating the pipes. As the plants progress in growth they must be trained, and the shoots should be stopped frequently in order to obtain a uniform stocky growth all over the trelliswork. This ought to be about 10 inches from the glass in the winter. When the plants are young and producing their first leaves these are usually of large size, and when they overshadow the young growths it is usually better to remove them altogether. Melons ripening should have the ventilators open night and day, and not much moisture to be permitted in the house. Cut the fruit and remove it to the fruit-room as soon as it begins to crack where the stem is attached to it.

GREENHOUSE AND CONSERVATORY.

We are not doing much in this department except attending to the plants which are in flower and removing any decaying

leaves and flowers. Those who have not yet grown Phloxes in pots for greenhouse decoration should do so. There is so much variety in the colour of the flowers; and the tall spikes of bloom, arranged so that they tower erect over other dwarf flowering or foliage plants, have a charming effect, and the flowers moreover are sweetly scented. The culture is so simple, too, that glass protectors in any form are not needed. It should be mentioned that our stage Pelargoniums are intended to flower rather late in the season, else the plants ought to have been cut down much earlier. We have now cut them down and the young growths are starting freely. A few specimens of the aphid tribe have been observed; the house will be fumigated with tobacco smoke until all traces of them are removed. We are also moving other greenhouse plants into the house, in each case seeing that no insect pests or mildew are allowed upon any of them. A few of the younger specimens have quite filled the pots with roots; and although it is so late in the season we shall repot them, as the weather is very favourable indeed for this purpose. Probably most of them will be repotted before this appears in print. Climbing plants trained to the roof must be well thinned out, as the leaves shade the plants too much, especially at this season of the year.

FLORIST FLOWERS.

We have now inserted more pipings of Pinks in shallow boxes and placed the boxes in a shady place, just placing some squares of glass over them to retain a moist atmosphere. They strike best and quickest with a little bottom heat, but we are trying them without it. The first lot of pipings rooted much better than we expected, and there is now a goodly number of fine plants. Some few of them, such as James Hogg and Dr. Masters, are not easily managed, but with care we have never lost any variety after it has become established.

Auriculas never looked so healthy as they are doing now, and they are making very good growths. The plants have been carefully looked over, and all decaying leaves removed with the offsets. These last have been much more numerous than usual. Some sorts, such as George Lightbody (Headly) have produced as many as six offsets from one strong plant. We would rather that they had not run so much to producing young stock, as the main stem is considerably weakened thereby. One or two of the best old sorts have still baffled all our skill to make them grow vigorously. Freedom (Booth) is one of the most difficult to manage, but still we will not despair of achieving the same success as Mr. Horner has done. He was years before he could get vigorous development into his plants; now the leaves are large and of a healthy dark green colour. Page's Champion seems to be, as the Scotch would say, a very "dirty" variety, and the leaves have a tendency to curl. A plant of any sort if it is in good health ought to have the leaves spread out, thick, and crisp. We have the plants fully exposed to the air night and day; the lights are placed over them merely to throw off the rains. The offsets have been potted in small pots in light soil, and the pots are placed in handlights, where they are kept close except on still calm days, when the lights are removed.

We have just finished layering the Carnations. We could not do them sooner, because the flowers were still fresh on many of the plants; indeed, we had to cut several dozens of flowers on the 17th in order that the layering might be done. Considering that a good stand of flowers could have been cut on the first week of July, and that a hundred blooms could have been cut any day for a period of about six weeks, no one can say that the flowers of Carnations are of a fugacious character. After layering the plants are placed in an exposed position out of doors. —J. DOUGLAS.

TRADE CATALOGUE RECEIVED.

Dickson, Brown, & Tait, 43 and 45, Corporation Street, Manchester.—*Autumn Catalogue of Dutch and French Flowering Bulbs.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

SEEDLING GLOXINIAS (S. H. K.).—There is no novelty in your seedling Gloxinias, and there are much better strains already in cultivation.

ROSES (Gorilla).—We have no communication from you.

POTATOES DISEASED (E. Stanley).—The tuber you have sent is affected by dry gangrene. Change of seed and change of soil are needed.

STREWING RUSHES AND FLOWERS (H. W. S.).—The custom at your village festivals and ceremonies is a remnant of an old and excellent mode of complimenting. Thus some lands at Aylesbury were held by the service of, amongst other things, finding "*herbam ad juncandam cameram* [Regis]"—that is, "grass or hay to strew after the manner of rushes in the King's chamber."—(Blount, *Frag. Antiq.* 181.) Hentzner notices that Elizabeth's presence-chamber at Greenwich was strewn with hay. Shakespeare introduces a groom strewing rushes at the coronation of Henry V. The stage was commonly strewn with rushes.—(Collier's *Annals*, iii. 364.) Occasionally the strewing was of a more costly character. The bride used "to walk to church on flowers," and the strewing of flowers is even yet used at our coronations. This subject is treated in Brand's "*Popul. Antiq.*" vol. ii. p. 48, and Nares's "*Gloss.*" p. 440. Several illustrative passages from Shakespeare have been there noticed, but not the following:—Grumio inquires, "Is the supper ready, the house trimmed, rushes strewed?"—(*Taming of the Shrew*, iv. 1.) And Romeo at the masked ball exclaims—

"Let wantons light of heart

Tickle the senseless rushes with their heels."—*Romeo and Juliet*, i. v.

These, it will be observed, are both instances of the use of rushes in private houses upon occasions of more than ordinary ceremony.

GRAPES CRACKING (A Constant Reader).—As you cannot diminish the supply of moisture to the roots of the Vine you can only check the supply of sap to the Grapes by cutting half through the spurs just below the bunches, and removing some of the leaves above them.

COTTAGE GARDENERS' DICTIONARY (—).—It has not been revised for nine years. Apply to the publishers for information.

ARTIFICIAL MANURES (G. C. E.).—Small quantities may be purchased of Mr. S. Hawley, Manure Merchant, Suffolk Street, Forest Gate, Essex.

DESSERT APPLES (J. E.).—To succeed the Ribston Pippin you may cultivate Cox's Orange Pippin, Court of Wick, and Court Pendu Plat. In our "Garden Manual" you will find information about Roses.

CLIPPING YEW (A Constant Reader).—You may clip it now, but many prefer clipping early in spring.

MELONS UNHEALTHY (R. A. P.).—The Melons we think have been over-cropped, and also over-excited. The foliage is large and thin in texture, suggestive that the house has been too hot, and especially too close. Probably had the temperature and ventilation been correct the plants would have been sufficiently robust to have carried the crop, which is now too heavy for them. The leaves are also infested with red spider. The night temperature should be about 60°—not below, nor many degrees above that figure—with just a chink of ventilation at the top of the house all night. The plants should be freely syringed during the afternoons of clear days, except when the fruit is setting or ripening, closing the house at a temperature of 85° or 90°. Air must be admitted very early in the morning—as soon as the thermometer commences rising, increasing the ventilation gradually as the heat of the house increases to its maximum of 85°. During sunny days keep the paths of the house moist, letting it become fairly dry, however, once a day for a short time. Employ as little fire heat as possible, but take full advantage of sun heat by closing the house early in the afternoon.

STORING POTATOES (A Reader).—We strongly advise you to keep the tubers spread thinly in a cool dry place, at least for a considerable time to come. They should not have too much light or they will turn green. If you must "clamp" them let them be perfectly dry first, and keep them dry and as cool as possible.

STRAWBERRIES (Idem).—Three useful sorts, in addition to those you have are President, Sir Joseph Paxton, and Frogmore Late Pine. They will thrive in any good soil. You will not err by ordering from one of the nurserymen advertising in our columns. We cannot break the rule to which you refer.

SCALE ON FERNS (S. H.).—We think the fond set is one of *Asplenium bulbiferum*, but the specimen is very imperfect. As you have not time to sponge the fronds and Myrtle foliage we advise you to dissolve 3 ozs. of soft soap in a gallon of water, and syringe the infested plants with the solution at a temperature of 120°. Lay the plants on their sides on a mat, so that the warm soapy water does not saturate the soil. Repeat the syringing at weekly intervals.

TIGER LILIES (J. W. S.).—The little embryo bulbs on the stems of *Lilium tigrinum* may, as soon as they are ripe and come off freely, be planted 4 inches apart in rather light soil which is not likely to get water-logged in winter, and they will form flowering bulbs in two or three years.

CHERRY TREES UNFERTILE (G. H. P.).—Without knowing the nature of your soil we cannot be certain as to the cause of your Cherry trees growing luxuriantly without perfecting fruit, but a soil too rich in vegetable matter and deficient of lime would produce like results. Try the effect of a dressing of bone manure, or even common lime. Your *Yucca recurva* is very fine, and favours the idea that your soil is too rich for stone fruits. They would be likely to make more growth than they could mature, and although they produce blossom freely and beautifully it may be imperfect in some respect, and consequently cannot produce perfect fruit. If you are sure the failure is not caused by a deficiency of lime try the effect of root-pruning, which may be done at once.

GERANIUMS FOR WINTER FLOWERING (Fly).—Cuttings of the Zonal section struck in the spring, and the plants potted-on as they increase in growth, are the best for winter flowering. The trusses of bloom should be removed during the summer and autumn months, the plants must be placed near the glass, and the temperature of the house be about 56°. Nearly all the varieties flower freely. They do not flower so well in large pots; 6 and 7-inch are sufficiently large, and no manure should be mixed with the potting material. The early-flowered section of Stage Pelargoniums are very useful for succession, such varieties as *Triomphe de St. Maude*, *Duchess of Edinburgh*, and the more recently introduced *Duchess of Bedford*.

TRIPS ON VINES (E. N.).—It was stated a few weeks ago in "Doings of the Last Week" how this pest was destroyed. We would certainly fumigate on three nights, at intervals of three days. Very probably the insects would not all be destroyed after that. The wood of both Vines and Peach trees ought to be washed in the winter after removing all loose bark from the old wood.

GESNERA CULTURE (J. A. Croydon).—You do not say what is the species or variety; we presume it is *G. zebrina splendens* or *G. exoniensis*, both fine winter-flowering plants. They succeed admirably in a stove having a winter temperature of 60°, falling to 55° at night; and 65° by day with a rise of 10° or more from sun heat. Ours are kept in the stove constantly, and when the

plants have ceased flowering they are not watered except to prevent the foliage flagging, and when that decays it is removed, no water being given, but the pots receive some moisture consequent upon sprinkling the house two or three times a-day. Shortly after the foliage decays the tubers are carefully removed from the soil. The pots are cleaned inside and out, drained a fourth of their depth, an inch of the rough of the compost is placed over the drainage, and they are filled to within an inch of the rim with compost, consisting of two parts of light fibrous loam, one part each of leaf soil or old dry cow dung and sandy peat, with a half part of silver sand, the whole broken up fine and well mixed. The bulbs are placed about 3 inches apart all around the sides of the pots, and so that the growing end is about an inch therefrom, and covered an inch deep. Only the largest tubers are used. No water is given. They are placed in the stove. The soil is kept more or less moist through syringing, but no water from the pot is given until the plants are an inch above the surface, then it is given in moderate quantity, avoiding making the soil sodden. The plants when growing are sprinkled overhead twice daily, and slightly shaded from bright sun in summer. A suitable summer temperature is 65° at night from fire heat, 70° to 75° by day, up to 85° or 90° with sun. When the flower heads show weak liquid manure is given once a-week. The plants with us commence flowering in November or December, and are often fine until February.

PLANTING ONIONS FOR SEED (A. B. G.).—Select the largest and best-formed bulbs, and plant them in February in an open situation, but if possible sheltered from wind. Drills may be drawn 3 or 4 inches deep, planting so that the crown is just covered with soil; or the bulbs may be planted with a blunt-ended dibble. The rows should be 1 foot apart and the bulbs 6 inches asunder, leaving a path 2 feet wide between every four rows. Keep clear of weeds, and when in flower stakes should be driven in, and tarred cords stretched horizontally on each side of the row of stems a few inches below the heads, to serve as a support and prevent their being broken down. In August the seed will be ripe, which is intimated by the husks becoming brownish; the stalks should be cut off near the ground, laid on a cloth in the open air for a few days to dry, but during that time they must not be exposed to rain. When dry the seeds may be rubbed out, cleaned of the chaff, and stored.

SOWING BROAD BEANS FOR SEED (Idem).—The seed should be sown the end of February or beginning of March. Early Mazagan and Longpods may be sown in November, but all the sorts will ripen seed perfectly if sown at the time named.

GRAPES NOT COLOURING (H. O.).—As your Vines are old and have only small bunches we should attribute the deficiency of colour to weakness, which may probably be remedied by allowing more foliage—lateral growth, especially so as to maintain active root-action until the fruit is perfectly ripened. The flower was too much smashed for identification.

RASPBERRIES (Subscriber).—Carter's Prolific and Fastolf are good red sorts. Those and the Sweet Yellow Antwerp will be likely to suit you.

SEEDLING GLOXINIA (H. L.).—The flower sent is very good. It is of great substance, and the colours—exterior of the tubes very pale rose, with crimson lobes edged with pinkish white—contrast effectively. Messrs. Veitch, however, frequently exhibit flowers of equally good quality.

LILIES DYING FROM WIREWORM (D. C.).—Place slices of carrot on sticks and bury them a few inches underground, examine them daily and destroy the wireworms found attached to them. If the ground is damp you must drain it.

LIST OF ROSES (Idem).—"Real" pink, Duchess of Edinburgh (Bennett), Lyonnaise, and Mdle. Thérèse Levet; dark red, Alfred Colomb, Maréchal Vaillant, and Sénateur Vaisse; good pink for forcing, Princess Beatrice, Duchess of Edinburgh, and Lyonnaise, or La France may be substituted, but it is a pale peach colour.

BOILER (Winter Garden).—No one could recommend any one confidently without seeing the places to be heated. Consult some gardener who has houses like your own.

INSECTS (Lancashire Old Subscriber).—They are familiarly called "Ruby-tailed Flies" of the family Chalcididae, the species being, we think, *C. ignita*. Though designated "flies" they are in the order Hymenoptera, and are parasitic in habit, the larvae being deposited in the nests of solitary bees and wasps. The abdomen is furnished with a peculiar ovipositor, which is also stated to have the power of stinging. In the garden it is neither injurious nor beneficial. (*J. H.*)—Those accused of attacking the Gladioli are not properly insects, but a species of *Julus* or *Millipede*. Like others of that family it is difficult to deal with. We know of no better remedy than careful hand-picking. The hardness of the integuments probably would defy the effects of a solution of ammonia, which is often found so successful in the case of worms and other subterranean feeders. Guano round the bulbs might banish the vermin.

NAME OF FRUIT (Connaught Subscriber).—Your Plum is *Belle de Louvain*.

NAMES OF PLANTS (Three-years Subscriber).—*Hoya bella*. (*W. W. A.*)—Apparently *Dendrobium transparens*, but material very scanty. (*A. C. R.*)—1, *Spectamen* insufficient; 2, *Rhus cotinus*; 3, *Spiraea opulifolia*. (*J. G.*)—1 and 2, *Lactea Filix-mas*; 3, *Polypodium vulgare*; 4, *Spiraea salicifolia*. (*F. T. F.*) *Lucern* (*Medicago sativa*). (*Constant Reader*)—1, *Liatris spicata*; 2, *Achillea ptarmica*; 3, *Antennaria margaritacea*; 4, *Catananche cerulea*. (*D. G. R.*)—1, *Panicum dysenterica*; 2, *Butomus umbellatus*; 3, *Ranunculus Flammula*; 4, *Sorophularia nodosa*; 5, *Lysimachia ciliata*; 6, *Senecio aquaticus*. You should get some book on British plants. (*R. P.*)—1, *Pteris serrulata*; 2, *Nothochloa distans*; 3, *Laetia Filix-mas*, crested variety; 4, *Adiantum hispidulum*; 5, *Pellaea hastata*; 6, 7, *Pteris tremula*; 8, *Asplenium trichomanes*. (*Constant Reader*)—*Adiantum formosum*; 2, *Pteris incisa*; 3, *Aspidium coriaceum*. (*Lady C. Turnour*)—1, *Aspidium acrostichoides*; 2, *Nephrodium marginale*; 3, *N. noveboracense*; 4, *N. dilatatum* var. *intermedium*.

POULTRY, BEE, AND PIGEON CHRONICLE.

COTTAGERS' POULTRY SHOWS.

THERE are in many districts in the present day local cottage-garden shows, and there is hardly a village that has not some annual gala—a fair, a club, or a friendly society's meeting. We

should like to see attached to some such annual festivity, of whatever kind it may be, some classes for table poultry, Ducks, and Rabbits belonging to cottagers only. Where possible, such classes would be best if they could be added to a cottage-garden show, so that at one time the various exhibits from the cottages of the district could be on view. We have long thought such little shows confined to some certain number of villages would prove of much value and interest. We believe they would tend to excite our humbler friends to cultivate poultry, which we never believe our present system of poultry exhibitions will do; in fact, the shows of prize fowls which are now weekly taking place do not in the remotest degree help to increase the cultivation of poultry as food. There may be isolated cases to the contrary, but the breeders of prize poultry for exhibition do not, we believe, think of their fowls in any way as articles of food, and the cottagers who have not the means, or opportunities, of breeding very high-class stock are consequently quite debarred from the pleasure and usefulness of exhibiting. We know of several villages where the cottagers keep three or four hens each, and by the sale of their eggs and the produce of a brood or two of chickens are enabled to have many little extra comforts which they would otherwise have to go without. Again, we know of some villages where a brook or stream of water runs through the place. The cottagers here keep two or three Ducks and obtain good prices for their ducklings. Such people want encouragement, and what one village can do many more can also perform. Poultry fit for the table will always command a remunerative price, and chickens and ducklings in all localities will always find a ready sale, while eggs are frequently sought for through the autumn and winter months in vain. We should all try to help the small incomes of a labourer's family in an honest way, and we verily believe some classes for their poultry and Ducks tacked on to the district cottagers' show if there is one, or held in some neighbouring barn or shed at the time of the annual village festival, would soon effect much good.

For the classification of such a little meeting we would have the simplest titles. We would have no particular breeds: we should recommend that the classes should be something like the following—(1) for the whitest skinned and legged pair of chickens; (2) for the heaviest pair of ditto; (3) for the most useful-looking cock and hen; (4) for the ditto drake and Duck; (5) for the heaviest pair of ducklings; (6) for the largest buck or doe Rabbit; (7) for the heaviest pair of young Rabbits; (8) for the heaviest dozen of single-yolked eggs.

One, two, three, or more prizes could be offered in each class, and other similar classes could be added at pleasure. Such classification would surely place all cottagers on the same footing, and would make them keep a large and useful breed of fowls, which would give them so much the more chance of a prize. The prizes need not be large; a 5s. first prize, 3s. second ditto, and 1s. third would answer most purposes, and the honour of the prize and the better sale of chickens which would consequently be obtained would have nearly as much effect as the money prize itself. We would have no classes whatever for Bantams or fancy breeds, for though they may be very interesting to some home circles and be made great pets of, they have nothing to do with our present object—viz., of encouraging cottagers to keep poultry for profit and to increase the supply of wholesome food.

We have had to do with two such little meetings this summer. The one we judged, and for the other we acted as honorary secretary, and we do not hesitate to say for first shows the success and the interest taken in them fairly surprised us. Excellent white-legged chickens were on view, well-grown ducklings, and large Rabbits; but perhaps the most satisfactory part of all was to hear the cottagers' remarks and to note their earnest attention to what the Judge in future required, such as white skins and straight breasts, and, where possible, uniformity of colour in a pair of birds. Repeatedly we heard one remark to the other that they should try another year, for what the next-door neighbour achieved they concluded they could also perform.

We have seen in some schedules a class "for cottagers only;" but such are really quite useless, for the schedules never fall into the hands of the desired people, and, if they did by any chance, such would not have the money to risk in entrance fees and carriage, or have proper baskets to send their birds in by rail. Neither do we think that a class for "cross-bred table fowls" is of the slightest use, for exhibitors in general do not care to have to do with such classes, and farmers but very rarely hear of them. We trust that those who have the interest of their villagers at heart will try to establish some such system and give the shows a fair trial of two or three years, for we venture to think a most unlocked-for result will crown their efforts. We do not speak so much of the northern counties, for many villages in Lancashire and Yorkshire have an annual show on a much larger scale, where the people would laugh at the simple classes which we propose; but in the southern and western counties we believe there is a good opening, and that there are scores of

villages which would eagerly support a cottagers' poultry show.—W.

DURHAM COUNTY POULTRY, &c., SHOW.

THE annual Show was held at West Hartlepool on the 17th inst. The entries were not large, the prizes offered not being such as to induce great entries, although the birds were pretty well divided. First on the list were *Dorkings*, and the winners were very good Dark Greys, and the *Cochins* unusually good. In *Polish* first were very fine Black Polish, the remainder being Golden. *Game* were very good but not numerous. *Hamburghs* were good in all classes, but the best pen of this variety was in the chicken class, the second to them being good Buff *Cochins*, and third White *Dorkings*. In *Game Bantams* first were a pen of Piles good in every respect, and second and third Black Reds. In *Bantams* any other, first and second Blacks, and third Silver Seabrights. *Ducks* were uncommonly good in both classes, the *Aylesburys* especially fine.

Pigeons were poor, except in the Turbits, Jacobins, and Owls. *Rabbits*, Lop-eared, first a Fawn and second a Tortoiseshell. *Angoras*, only winners good, and Himalayans moderate, as they were very much faded on the feet. In the Variety class first was a Silver-Grey, and second a Grey-and-white Dutch.

POULTRY.—*DORKINGS*.—1, J. White. 2, M. S. Buxton. 3, W. Morrison. *COCHINS*.—1, 2, and 3, G. H. Procter. *SPANISH*.—1, E. Nicholson. 2, T. Newlands. *BAHAMA POULTRY*.—1, Miss Cotes. 2, J. Hardy. *POLANDS*.—1 and 3, J. T. Proud. 2, J. Garrett. *GAME*.—1, J. A. Nelson. 2, G. Alderson. 3, J. Hamilton. *HAMBURGHS*.—*Golden-spangled*.—1, R. Keenleyside. 2, G. Grainger. *Silver-spangled*.—1, G. Alderson. 2, Maude & Scott. 3, G. Grainger. *Golden-pencilled*.—1, G. Alderson. 2, J. P. Carver. *Silver-pencilled*.—1, D. Clow. 2 and 3, G. Alderson. *BANTAMS*.—*Game*.—1 and 3, J. A. Nelson. 2, F. S. Hookaday. *Except Game*.—1 and 3, G. Alderson. 2, J. Muir. **ANY OTHER VARIETY**.—1, R. Hawkins. 2, G. Alderson. 3, J. P. Carver. **ANY BREED**.—*Chickens*.—1, G. Alderson. 2, G. H. Procter. 3, H. Cockton. *Ducks*.—*Rouen*.—1, F. E. Gibson. 2, J. A. Nelson. 3 and *who*, Miss Robinson. *Aylesbury*.—1, 2, and 3, F. E. Gibson. *who*, W. Porter.

PIGEONS.—*CARRIERS*.—1, J. L. Nicholson. 2, C. F. Cockhill. *TUMBLERS*.—*Almond*.—1 and 2, G. Alderson. *Any other variety*.—1 and 2, J. Davidson. *FAN-TAILS*.—1, P. Wilson. 2, G. Alderson. *TRUMPETERS*.—1, G. Alderson. 2, Maude and Scott. *BARRS*.—1, G. Alderson. 2, E. Nicholson. *JACOBINS*.—1 and 2, G. Alderson. *who*, J. Davidson. *TURBITS*.—1 and 2, G. Alderson. *who*, Maude and Scott. *OWLS*.—1 and 2, G. Alderson. *POTTERS*.—1, P. Wilson. 2, G. Alderson.

RABBITS.—*LONG-EARED*.—1, J. S. Robinson. 2, G. H. Young. *ANGORAS*.—1, A. Richley. 2, J. S. Robinson. *HIMALAYANS*.—1 and 2, M. Fletcher. **ANY OTHER VARIETY**.—1, J. W. & O. Moses.

JUDGE.—Mr. E. Hutton.

PIGEON NOTES.

No creature is so thoroughly helpless as an infant Pigeon; but this is a wise dispensation of Providence, for the young squab is less likely than more precocious birds to get into danger during the absence of its parents in search of food for themselves and young. They have just instinct enough to hold up their heads and feel the bills of their parents, who at first feed them in a curious manner with a soft curdy secretion, which is produced in their crops at the end of the period of sitting. This secretion of soft food, says Mr. Tegetmeier, cannot be delayed; consequently if the young birds do not emerge from the egg on the eighteenth day, the old birds desert the nest, refusing to sit longer. The production of the soft food, however, may be hastened a day or two. If a pair of chipped or hatching eggs be placed under a pair of birds that have been sitting sixteen days, their presence will always stimulate the secretion of the soft food, and the young will be duly nourished.

The formation of this curdy secretion—true Pigeon's milk—is a very remarkable fact. It seems determined altogether by the process of sitting; it is produced equally in both parents, though the hen sits about twenty hours and the cock only four. To receive this nourishment, the young thrusts its beak into the side of the mouth of the old bird, in such a position that the soft food which is disgorged from the crop of the parent with a sort of convulsive shudder, is received into the lower mandible or jaw, which is widely extended in order to receive it. As the young advance in size the soft food lessens in quantity, and the grain and seeds that constitute the nourishment of the parents become mingled with it; and when about eight or ten days old the young are fed with disgorged grain and seeds only, until such time as they are able to fly and seek their own nourishment.

The proper time to kill Pigeons for the table is just before they leave the nest, when they are about a month old. As soon as they begin to feed themselves they begin to grow lean, and their flesh loses that tenderness and delicacy of flavour which belongs to young Pigeons.

Parasites.—Pigeons are subject to five unpleasant and troublesome insects, which will infest their houses and breed among their plumage unless the most scrupulous cleanliness is observed. A little snuff sprinkled over the birds and into their nests will give temporary relief, but the nuisance can only be thoroughly eradicated by burning the infested nests, lime-washing the inside of the loft, and washing the nesting places with limewash or tobacco water. These vermin are fleas, lice, feather lice, mites, and ticks. These parasites are a peculiar species, which do not fix themselves on the human skin. The fleas are

smaller and blacker than the common flea. They may be got rid of by brushing out the nests and corners, and prevented by not allowing dirt, dust, and feathers to accumulate.

Lice usually infest sick or delicate birds, breeding chiefly about the head and neck, but also running over the whole body, annoying the birds and keeping them from getting strong. Butter or lard rubbed on the skin is said to kill them, but a little powdered sulphur dusted in among the feathers is the best remedy. Cleanliness and keeping the Pigeons in good condition are the best preventives.

Feather lice are elongated and flattened in form, very tough, and difficult to remove from the feathers, between the fibres of the veins of which they frequently swarm. They do not seem to cause the bird any inconvenience; and as their food is the down at the quill end of the feathers, it seems almost as if they were intended to reduce the warmth of the bird's covering in summer, for their number must be very much decreased at moulting-time by the quantity cast off with the old feathers, and not until spring can they increase sufficiently to thin the warm under-covering of down, which in summer is not so necessary for the Pigeons as in the cold months of winter. Nevertheless, they are always decreased by attention to cleanliness; and as "cleanliness is next to godliness," and its necessity to health has been insisted on by the greatest physiologists, the theory cannot be maintained.

Mites are the smallest, most common, and troublesome of these pests; the largest are not larger than grains of poppy seed. They are generally black, with white streaks or spots on their bodies. They do not appear to live on the bodies of the Pigeons, but inhabit the chinks in the walls, the cracks in the wood, and dark corners of the nesting-places, and often congregate in thousands in the nests, whence they issue at night when the Pigeons have gone to rest, and feed till they are red, instead of being black and white. Squabs suffer more than the old birds with them. The mites get into the ears of the young birds and torment them much in warm weather, making them lean and miserable, and retarding their growth, often causing their death. A drop of oil in the ears, under the wings, and where else the mites may be seen, will prevent their annoying the young. Powdered sulphur strewn in the nests, and dusted among the feathers of the old birds, is the best plan I know of. As a preventive means, stop all cracks and chinks, let the wood-work be planed and painted, and do not give the Pigeons hay for nests; heath and birch twigs are the best. Washing the walls, painting the woodwork so as to stop all cracks however minute, and perhaps the addition of powdered sulphur in the limewash, may be a good precaution.

Ticks are the largest and most disgusting, and fortunately the most rare of these parasites. They generally infest the head and back of the bird, and grow as large as tares, when, the feathers not being sufficient to hide them, they may be picked off. Mr. Bent says they proceed from an ugly, curious flat-looking fly, about the size of the common house fly, of a slaty grey colour, and very flat in form. Cleanliness and flour of sulphur are the only remedies.

Diseases are generally the result of mismanagement, exposure, lack of ventilation, cleanliness, exercise, proper accommodations, or pure water for drinking and bathing. However, in such evils as falling of the gizzard or navel, and the like, that are indications of a weak constitution, the birds are better killed.—(*American Fanciers' Journal*.)

PREPARING STOCKS FOR WINTER.

ASAP from the heather the season for honey is over, and the sooner stocks are prepared for winter the better. The preparation of stocks in autumn is not the least important part of apiculture. Now is the time to lay a solid foundation for success another year. Young apiarians about to engage in this work will, I trust, permit me to give them three watchwords:—1st, Plenty of young bees; 2nd, Plenty of food for them; and 3rd, Warm and comfortable houses to live in.

Owing to unfavourable weather many of the late swarms have not filled their hives with combs, and have little or no honey in them. They are not worth taking for their honey. Are they worth keeping? As a few strong hives yield more profit than double their number of weak hives, it is often advisable to unite the bees of the weak to stronger hives, and thus make sure of having some excellent stocks. Every bee-keeper must decide for himself how many and what stocks he will keep for another year; but let me say that hives not full or strong now may be made stronger by artificial treatment. Vigorous and constant feeding at the present time would cause the bees to commence breeding afresh, and comb-building too where necessary. Thus weak and comparatively worthless hives may be fed into pretty good stocks before the end of September. Two hatches of six combs of brood would make a hive by that time strong in young bees. Part of the syrup given to promote breeding and comb-building would be stored up for winter food. Far more good will be accomplished by feeding now than by

doing it later in the season, so far as breeding and comb-building go. Bees are easily stimulated into active efforts during warm weather, whereas they are more difficult to move in the way of extension and expansion during the chilly weather of autumn; then they naturally abstain from comb-building and cluster closely together.

In breeding and comb-building there is necessarily a great consumption of food. Early and continuous feeding produces better stocks, and thereby necessitates a larger supply of food. Some of the larger supply goes for comb-building, some for brood, and some is needed for the increased population of the hives. What a stupid and strange mistake some writers on bees made in asserting that a small population in a hive needs as much food as a larger one! The readers of this journal know better. I know that 40,000 bees require twice as much food as 20,000. If a large swarm of 40,000 bees (about 8 lbs. in weight) be placed in an empty hive at the end of August it will require about 20 lbs. of sugar (40 lbs. of syrup) to make it safe for the winter. From the 40 lbs. of syrup the bees would fill or nearly fill their hive with combs and brood, and store-up food enough for themselves till the end of March. About one half (20 lbs.) of the syrup is used in comb-building and for brood and bees during the month of September. The other half is stored up for winter keep, and in ordinary seasons is enough for a very strong hive. Hives that are full of combs do not require so much syrup, and if hives have bees enough for winter continuous feeding should be avoided. The more rapidly such hives are fed the more food is stored up, because less is consumed in the excitement of feeding. The principal idea I am seeking to convey in this letter to youthful apirians is this—that syrup given regularly every night to healthy hives will cause the bees to recommence breeding, and thus replenish their hives with a numerous and valuable population. Feeding should be commenced as soon as possible, and be continued without halt till it is completed. Late feeding is attended with the danger of causing the bees to breed at an untimely season. Bees may be lost in going out for water, and brood may be chilled to death.

Our third watchword is a good warm house for bees to live in. It is much to the interests of the bee-master that his little industrious servants be well provided for, and be well protected during the winter months. Bees deserve comfortable houses with all proper sanitary arrangements, including proper and perfect ventilation, for the internal moisture of hives is often more hurtful to them than anything else either outside or inside. Many of my readers would be astonished, if they were to turn up their hives at the present time and examine their insides, what a hurtful mess of condensed moisture they would find on the inner surfaces of their hives. This discovery would perhaps lead to a second examination and the consideration of the importance of the ventilation of hives. In touching this subject on former occasions I have given offence to some parties, but my object is to enlighten public opinion and advance apirian science. Hives that let their internal moisture sift out and escape are far more comfortable and better for bees than those that keep it in. Many bee-keepers have this lesson yet to learn.

Hives of proper materials—indeed, hives of all kinds—require protection by covering from the storms of winter. Hives standing out of doors cannot be too warmly covered during the winter and early spring months. This lesson is easily learned, but more difficult to practise, especially where many hives have to be covered.—A. PETTIGREW.

FEEDING BEES.

I HAVE tried two ways of feeding—with barleysugar and syrup, sugar and water boiled to a proper consistence. The former I find very useful, putting the sticks on the top of the hive, as I find feeding at the top always best. Some time ago I found a quantity of fat left by the bees from the barleysugar, and it is a curious fact that they should be able to suck-out the saccharine matter and leave the fatty. To make the syrup I put oil sugar and water boiled to a proper consistence, fill a wide-mouth bottle, tie-down with muslin, and turn over and insert into the hole at the top of the hive. This I find a good plan when regular heavy feeding is required, but watching is necessary that the syrup may be renewed. I have never found it become candied, although some persons object to it on that account. But it would very soon be found out and remedied. Beer or vinegar may be added to it. I have never tried either.—R. B. R.

OUR LETTER BOX.

MARKING POULTRY.—"A. B." asks for a simple method of marking poultry so as to distinguish readily birds of one year from those of another year. There is the drawing of a ring for the purpose in our twenty-sixth volume, new series.

CONFINED SPACE FOR FOWLS (J. S. T.).—Cochin-Chinas or Houdans would endure the confined space much better than any variety of Dorking.

TAKEING HONEY (A Novice).—We advise you to drive the bees out of the

old straw hives and put them into empty bar-frame hives. Probably the hive that you have made is as good as any you can buy, but the "Italian frame hive" which you have purchased is not a proper hive for bees in this country. The people and country that produce and use such hives are not far advanced in the art of bee-keeping. Mr. Leo of Windesbam, Bagshot, and others about London can supply you with hives far superior to the Italian one. First drive the bees into straw hives or round boxes, then cast them into the bar-frames and place them where they now stand. Boil 30 lbs. of sugar in thirty pints of water, and give all the syrup to the two swarms in fourteen days—about 2 lbs. of syrup every night to each swarm. In this way you will get the honey from the old straw hives and two good stocks in frame hives. Do not attempt to fill the frames with old combs—a most foolish practice with some bee-keepers, for bees readily make fresh combs from syrup, and thrive and prosper amongst them exceedingly. If you want the honey from your large circular box the bees should be driven from it and hived in a bar-framer. Your three swarms in smaller boxes may remain as they are for stocks. You will have to venture sometime on the task of driving bees, and you may as well begin at once. All you want is a little courage and self-possession. As soon as the bees are driven from the combs see that the honey is run from them. Honey should be run before it cools.—A. P.

BEE PASTURAGE (G. C.).—The bees will obtain honey from the peppermint. They have been proved to visit flowers nine miles distant from their hive.

CREOSOTE.—"M. A. H." asks what are the proper proportions of creosote to mix with water to steep different kinds of woods in, and more especially prepared oak for waterwheels at a corn mill? Will water counteract the desired effect? and will creosote take the same effect on firs and pines as on all hard woods?

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.					
	Barom. ter at 420 and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		Rain.
		Dry.	Wet.			Max.	Min.	In sun.	On grass.	
1877. Aug.	Inches	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
We. 15	29.908	64.3	61.7	W.	64.0	79.5	59.1	129.9	55.3	—
Th. 16	29.955	66.0	60.5	W.	64.5	77.4	58.3	125.9	54.6	—
Fr. 17	29.948	66.6	60.4	W.	64.5	74.6	54.5	127.0	51.3	—
Sat. 18	30.064	64.8	59.4	W.	64.9	76.6	52.7	113.8	48.2	—
Sun. 19	29.767	73.9	66.3	W.	66.3	77.4	60.0	118.1	59.1	—
Mo. 20	29.813	75.3	67.8	S.	65.2	83.9	60.0	124.0	60.6	0.050
Tu. 21	29.869	67.9	61.5	W.	66.7	76.3	63.2	127.7	61.6	0.255
Means	29.859	68.3	62.5		65.0	77.8	58.3	123.6	55.5	0.305

REMARKS.

15th.—Very thick morning, but soon clearing off, and the day beautifully fine; starlit night.

16th.—Fine pleasant day; cooler towards evening, and bright starlit night.

17th.—Another bright fine day.

18th.—Rather hazy in the morning, bright pleasant day, and not quite so hot.

19th.—Grey morning and forenoon, afternoon close and stormlike, with sudden gusts of wind both afternoon and evening.

20th.—Hazy in morning, but very fine by 9 A.M.; fine all day, and very hot in the afternoon and evening.

21st.—Rain at 6 A.M., fair but with high wind at 8 A.M., forenoon rather cloudy, afternoon looking stormlike, a short very heavy shower between 4 and 5 P.M., and strong gusts of wind more or less all day, and the temperature much cooler.

A fine pleasant week. The mean temperature about 9° above that of last week. The heat was rather oppressive on Monday the 20th.—G. J. SYMONS.

COVENT GARDEN MARKET.—AUGUST 22.

No improvement in business, the supply of home-grown fruit being nearly limited to Apples and Nuts. Large quantities of Grapes are now arriving from the Channel Islands.

FRUIT.

	s.	d.	s. d.		s.	d.	s. d.
Apples.....	1	sieve	2 6 to 3 6	Melons.....	"	each	3 0 to 3 0
Apricots.....	dozen	1 6	3 0	Neotaries....	dozen	4 0	18 0
Chestnuts.....	bushel	0 0	0 0	Oranges.....	"	100	10 0 16 0
Currants.....	1	sieve	3 0 3 6	Peaches.....	dozen	8 0	20 0
Black.....	1	sieve	6 6 7 0	Pears, kitchen..	dozen	0 0	0 0
Figs.....	dozen	2 0	9 0	dessert.....	dozen	1 6	3 0
Filberts.....	lb.	0 0	0 0	Pine Apples....	lb.	5 0	8 0
Cobs.....	lb.	0 0	0 0	Plums.....	1	sieve	0 0 0 0
Gooseberries..	1	bushel	1 6 2 6	Raspberries....	"	lb.	0 6 1 0
Graufhouse....	lb.	1 6	8 0	Walnuts.....	"	bushel	5 0 0 0
Lemons.....	£	100	6 0 10 0	" ditto.....	"	£	100 0 0 0

VEGETABLES.

	s.	d.	s. d.		s.	d.	s. d.
Artichokes.....	dozen	3 0	6 0	Mushrooms....	pottle	1 6	to 2 0
Asparagus.....	dozen	1 0	0 0	Mustard & Cress	punnet	0 2	4 0
Beans, Kidney..	bushel	4 0	5 0	Onions.....	bushel	1 0	0 0
Beet, Red.....	dozen	1 6	8 0	" pickling.....	quart	4 0	6 0
Broccoli.....	bunch	0 9	1 6	Parsley.....	doz. bunches	2 0	0 0
Brussels Sprouts	1	sieve	0 0 0 0	Parsnips.....	dozen	0 0	0 0
Cabbage.....	dozen	1 0	2 0	Peas.....	quart	0 6	1 0
Carrots.....	bunch	0 6	0 9	Potatoes.....	bushel	5 0	0 0
Capsicums.....	£	100	1 6 2 6	Kidney.....	bushel	5 0	7 0
Cauliflowers....	dozen	2 0	0 0	Radishes.....	doz. bunches	1 0	1 6
Celery.....	bundle	1 6	2 0	Rhubarb.....	bundle	0 6	1 0
Coleworts doz.	bunches	2 0	4 0	Salsafy.....	bundle	0 9	1 0
Cucumbers.....	each	0 3	0 9	Scorzoneria....	bundle	1 0	0 0
Endive.....	dozen	1 0	2 0	Seakale.....	basket	0 0	0 0
Fennel.....	bunch	0 3	0 0	Shallots.....	lb.	0 3	0 6
Garlic.....	lb.	0 6	0 0	Spinach.....	bushel	2 6	4 0
Grass.....	bunch	1 0	2 0	Turnips.....	bunch	5 0	0 0
Lettuce.....	dozen	1 0	2 0	Veget. Marrows..	"	each	0 2 0 4
Leeks.....	bunch	0 4	0 0				

WEEKLY CALENDAR.

AUGUST 30—SEPTEMBER 5, 1877		Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.					
Day of Month.	Day of Week.		Day.	Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.	Days.	m.	s.
30	Th		74.5	48.2	61.3	5	11	6	50	8	35	0	37	21	0	24
31	F	Sandy Show	71.5	47.4	59.4	5	13	6	47	9	8	1	56	2	0	5
1	S	British Museum closes.	71.1	47.5	59.3	5	14	6	45	9	56	3	8	23	0	13
2	SUN	14 SUNDAY AFTER TRINITY.	71.0	47.6	59.3	5	16	6	43	11	3	4	9	24	0	32
3	M		71.8	47.7	59.2	5	18	6	41	morn.	5	54	25	0	52	
4	Tu	Royal Horticultural Society—Fruit and Floral Com-	71.0	46.7	58.9	5	19	6	38	0	26	5	26	26	1	11
5	W	[mittees at 11 A.M.]	70.4	47.1	58.8	5	21	6	36	1	53	5	49	27	1	31

From observation taken near London during forty-three years, the average day temperature of the week is 71.5°; and its night temperature 47.4°.

HERBACEOUS BORDER FLOWERS.



N page 135, in an article entitled "The Rose Year," "WYLD SAVAGE" states that he intends to make an herbaceous border, and would like some of your readers to give a list of herbaceous plants that must not be left out of it. At this season of the year when many herbaceous plants are in bloom a few general remarks on some of them may not be out of place. I will endeavour to name a few good old border flowers which are worth having in any garden; many of them may still be found in gardens where the more modern style of embellishment is not carried out. I myself hope others of your readers will contribute a list of old plants, for they are well worthy of more extensive cultivation.

First of all I will name a few dwarf plants that are suitable for the front row of the border next the grass or gravel. *Gentiana acaulis*, very dwarf, with large dark blue flowers produced in the spring and early summer months, grows admirably in damp situations, and when well established is a very attractive plant. The Christmas Rose (*Helleborus niger*), flowers in December and January, makes very pretty patches if the weather is not too rough; but if plenty of flowers are wanted of it for house decoration it is best to plant it in quantity, so that a frame and light may be placed over it when it begins to show flower. It also does well in 6-inch pots, and is useful for conservatory decoration, flowering freely in the same pots for two or three years in succession without repotting. *Campanula pusilla alba* and *C. turbinata* are two dwarf species, the former being very pretty when in flower in June or July. *Caltha palustris pleno*, or Double Marsh Marigold, is a plant with yellow flowers, very pretty in May and June. *Alyssum saxatile*, *Anubrieta purpurea*, and *Arabis alpina* are three well-known spring bedding plants, and good clumps of them are very telling in a mixed border. The *Arabis* makes a very pleasing bed from the middle of February until the middle of May, especially if single scarlet Van Thol Tulips and blue Crocuses are planted about 9 inches apart between the *Arabis*. It is easily increased by division after flowering, setting the pieces in rows, as many as are required for bedding, about 6 inches asunder, watering well until roots are emitted. The Evening Primrose (*Oenothera macrocarpa*) is a good old plant with large yellow flowers produced throughout the greater part of the summer. *Hepatica triloba rubra* and *H. triloba cœrulea* are two pretty spring-flowering plants. *Phlox Nelsoni* and *P. subulata* form charming masses of bloom in the spring; so also does *Saponaria ocyroides*. Any of the plants above named are good for the front of a border; nor should "WYLD SAVAGE" forget to have a few patches of *Mignonette*, *Snowdrops*, *Crocuses* of sorts, *Hyacinths*, *Jonquils*, double *Daisies*, and common *Bluebells*; also *Squills*, *Scilla præcox*, *S. siberica*, *S. campanulata*, and the Feathered *Hyacinth*, *Muscari comosum* and *monstrosum*, which are very pretty when in bloom.

No. 857.—VOL. XXXIII., NEW SERIES.

I will now enumerate a few taller-growing plants suitable for an herbaceous border, some growing a foot and others 2, 3, 4, and 5 feet in height, some of which require stakes to support the stems and flowers. What can be better for cutting from than good clumps of common white Pinks, Sweet Williams, Mule Pinks (*Dianthus hybridus*), Carnations, and Picotees? all of which can be increased by layers, cuttings, or seed. Plants of the common kinds of Pinks two or three years old will furnish hundreds of flowers. The Sweet William (*Dianthus barbatus*) is usually treated as a biennial, but sometimes it will keep alive and do well in the same place several years in succession. A good late summer plant is the Torch Lily (*Tritoma Uvaria*), known to many as the Red-hot Poker plant, clumps of it 4 or 5 yards apart in a long border have a very telling effect; so also is the Tiger Lily (*Lilium tigrinum*) and the common white Lily (*Lilium candidum*). Four or five bulbs of the two latter-named plants should be planted in patches 6 inches deep in enriched soil in the autumn, they will take care of themselves after.

A fine old plant for borders is *Iberis corifolia*; it strikes readily from cuttings placed in a close frame, but it takes two or three years before it has a telling effect. Plants of it that I have seen on the Cruciferous bed of a botanic garden, which have been in the same station for ten or twelve years, are perfect sheets of white when in bloom, 4 feet in diameter, resembling in outline and contour the famous specimens of fancy *Pelargoniums* that used to be so conspicuous at the metropolitan shows some twelve or thirteen years ago, as shown by Messrs. Turner of Slough, and Fraser of Lea Bridge Road Nurseries. It requires no training and no sticks for support. It is in bloom from the beginning of May till the end of June, a period of nearly two months, and taken altogether *Iberis corifolia* is one of the finest hardy plants I am acquainted with. *I. saxatilis*, *I. Garrethiana*, and *I. sempervirens* are also good sorts.

A very useful plant is the Sweet Woodruff (*Asperula odorata*); I have found that it does very well under the shade of trees when well established, and the foliage when cut and dried is very sweet-scented. *Dielytra spectabilis* is a well-known useful plant for borders, good also for forcing. *D. eximia* is a pretty dwarf plant with lacinated foliage, the flowers only rising about 6 or 7 inches in height; it may occasionally be seen in old cottage gardens in company with such plants as the old hardy *Fuchsias* and *Monkshood* (*Aconitum Napellus*), the *Fritillaria* or Crown Imperial, Canterbury Bells, Rockets, Lavender, perennial *Asters* or *Michaëlmass Daisies*, London Pride (*Saxifraga umbrosa*), Golden Rod (*Solidago altissima*) 4 or 5 feet in height, Lupines, Solomon's Seal (*Polygonatum multiflorum*), Lily of the Valley, *Mignonette*, *Marigolds*, and *Brompton Stocks*, all of which are useful old plants.

Delphiniums, of which there are many varieties, are useful for cutting. *D. formosum* is still as free and hardy as any I know, but *D. Hendersonii* has finer flowers. *Saxifraga granulata*, *S. paniculata*, and *S. crassifolia* are good border flowers; the latter has bold handsome foliage.

No. 1509.—VOL. LVIII., OLD SERIES.

The Meadow Sweet (*Spiraea Ulmaria*) and Dropwort (*Spiraea Filipendula*), *Veronica spicata*, the Virginian Spiderwort (*Tradescantia virginica*), *Statice Gmelini*, *S. latifolia*, the flowers of the two latter-named are useful for mixing with Everlastings for winter decoration; *Oenothera biennis*, growing to 5 or 6 feet in height, the flowers of a bright primrose colour, and beautifully scented; some of the different kinds of *Iris*, *Columbines*, *Antirrhinums*, *Pyrethrums*, *Pæonies*, *Pentstemons*, and *Gladioluses* are all suitable for planting in borders.

A few more good plants, though some of them are seldom met with, are *Dictamnus Fraxinella*, 2 feet in height; *Echinops ruthenicus*, with Thistle-like heads; *Onosma taurica*, a plant of the Boraginaceae family with bright golden flowers; *Corydalis nobilis*, *Chrysocoma linoxyris*, *Liatris squarrosa*, *Lobelia cardinalis*, *Linum flavum*, *L. perenne*, the latter a beautiful blue-flowering plant; *Monarda didyma*, the scarlet flowers and leaves of which have a beautiful perfume; *Lychnis chalcedonica*, *L. dioica rubra*. *Iris fetidissima*, with its bright red seeds in the capsule like Holly berries (the variegated kind is also ornamental), and *Centranthus ruber* are all useful to cut from to mix with the "handful of flowers" that is often asked for. *Campanula carpatia*, *C. carpatia alba*, and *C. coronata* make splendid border plants, seeds of which if sown now will make flowering plants next year. *Coreopsis lanceolata* and the Leopard's Bane (*Doronicum austriacum*) are two fine yellow-flowering plants; also the Day Lily (*Heimerocallis flava*). *Funkia ovata* and *F. subcordata* have bold-looking and handsome foliage, as may be seen by their use in the London parks; *Achillea Millefolium roseum* and *A. Millefolium aureum* are pretty in June, and *Anemone Honorine Jobert* is a capital September-flowering plant.

A good deep soil and well enriched with decayed manure is necessary before planting a border with herbaceous plants. It may be taken as a guide that soil that will produce Potatoes or Cabbages well will also suit most herbaceous plants. They should be planted so as to leave ample space between them for hoeing and raking in summer time; room may also be left for having good patches of annuals—Stocks, Zinnias, Gaillardias, Wallflowers, Asters, Pansies, Hollyhocks, Dahlias, and Chrysanthemums, the Pompon section being very useful; also a few scarlet Geraniums, Salvias, Heliotropes, &c.; for a border made exclusively of herbaceous plants has towards the end of summer a very dull appearance. None of the plants I have named are of recent introduction; all have conspicuous flowers, and are well known to many. There are many more good, but these are a few out of the many good old garden plants, and if "WYLD SAVAGE" cannot obtain all of them I would recommend that the following should not be left out of his herbaceous border:—

<i>Iberis saxatilis</i>	<i>Funkia subcordata</i>	<i>Linum flavum</i>
<i>Anubria purpurea</i>	<i>Saponaria ocyroides</i>	<i>L. perenne</i>
<i>Oenothera macrocarpa</i>	<i>Carnations</i>	<i>Fuchsias</i> (hardy)
<i>Echinops ruthenicus</i>	<i>Pæonies</i>	<i>Tritoma Uvaria</i>
<i>Dictamnus Fraxinella</i>	<i>Dahlias</i>	<i>Coreopsis lanceolata</i>
<i>Gentiana acutis</i>	<i>Heliotropes</i>	<i>Veronica spicata</i>
<i>Heimerocallis flava</i>	<i>Arabis alpina</i>	<i>Polygonatum multiflorum</i>
<i>Delphinium formosum</i>	<i>Alyssum saxatile</i>	<i>Scilla campanulata</i>
<i>Lupinus polyphyllus</i>	<i>Campanula pusilla alba</i>	<i>Saxifraga crassifolia</i>
<i>Dicentra spectabilis</i>	<i>C. carpatia</i>	<i>Pinks</i>
<i>Solidago altissima</i>	<i>C. carpatia alba</i>	<i>Pansies</i>
<i>Monarda didyma</i>	<i>Anemone Honorine Jobert</i>	<i>Hollyhocks</i>
<i>Statice Gmelini</i>	<i>Doronicum austriacum</i>	<i>Chrysanthemums</i>
<i>Spiraea Filipendula</i>		

—A. HARDING.

STRAWBERRIES ON LIGHT SOIL.

As an amateur I venture to send you a few notes on Strawberry culture which may interest some of your readers. About five years ago I took possession of a garden in the eastern counties with a southern aspect, having full exposure to the sun and partially sheltered by surrounding buildings, which, however, greatly aggravate the destructive force of southeasterly winds in the spring and south-westerly gales in autumn. The soil was very poor and light, with gravel at 2 feet from the surface; and the existing Strawberry beds being evidently exhausted I at once dug them up and trenched the ground, working in plenty of good farmyard manure and spread 3 inches of clay over the surface, which after being exposed to frost all the winter was forked-in the following spring, when runners of all the best kinds I could procure were planted. All through the growing season the young plants were watered when necessary, mulched, and duly looked after, and by the autumn were well established for fruiting the next year, when the crop fully repaid the trouble taken with it.

After gathering the fruit the plants were watered and kept free from runners, &c., and in the winter a second dressing of clay was given. The second season the fruit was more abundant than the first; but though the total weight was greater the individual berries were not so fine, and consequently only half the beds were left for the third season and a fresh plantation of runners made. The three-year-old plants received the same attention as the new plantation, but the fruit of the latter proved so superior in every way that I shall not again allow any plants to stand over the second season, and should be inclined to renew all annually, except for the fact that the fruit from the two-year-old plants comes about a week later than that from the runners, and thus helps to prolong the season—a most desirable object in Strawberry culture, especially with the British Queen variety, which has no later kind to follow it at all approaching it in flavour.

As to varieties, Black Prince is the earliest, with nothing else to recommend it. Keens' Seedling is the best early sort, though complaints are sometimes made of its being a bad bearer, which I believe is owing to carelessly taking the runners from the strongest instead of the most fruitful plants. Alice Mand is good and a free bearer; Oscar and Roden's Early Prolific are worth trying, the latter in some seasons being a few days earlier than Keens'.

For mid-season, Lucas has proved the best, being large and when quite ripe very richly flavoured. President is very large, and, though hardly equal to Lucas, excellent for preserving. Sir J. Paxton and Sir Harry are also good. Vicomtesse Héricart de Thury is an abundant bearer of medium-sized fruit. Rivers' Eliza seems to require some special treatment, as it does not prove equal to what I have tasted from other gardens. Can any of your readers say how it ought to be grown?

The best late sort is British Queen, surpassing all others in flavour, and when fully ripened perhaps the finest fruit grown in English gardens. Its leaves are very liable to injury from red spider, and after the fruit is gathered, if intended to stand a second season, it should receive special attention as to watering and mulching. Dr. Hogg and Mr. Radclyffe seem to be mere varieties of British Queen, and no improvement on it. Carolina Superba is another variety of the same strain but distinct, being much sweeter and richer than the Queen. Frogmore Late Pine proved no later than British Queen, and decidedly inferior to it. Elton and Eleanor are later but acid, and the latter, though large and handsome, is too coarse to eat after tasting the Queen. A variety that would come in after the Queens are over, and anything like equal them in flavour, would be a decided boon.

As to recent novelties I only know of one worth recommending, named Loxford Hall Seedling, which Messrs. Veitch are now sending out. It combines the richness of one of its parents (British Queen) with the constitution of the other (La Constante), and will doubtless succeed in many places where the Queen fails. I intend growing it myself, and advise my friends to try it.

On good heavy soil anyone can grow abundant crops of Strawberries, even on the lazy-bed system; but on light soils I am persuaded that success can only be secured by carefully preparing the ground, and if very light adding some heavy loam or clay. Plant early and far apart, water when necessary, and mulch, which saves much watering; and last, but not least, allow no plants to remain over the second season.—ESSEX.

AUTUMN ROSES.

"WYLD SAVAGE" has recently referred to autumn Roses. I can fully confirm all he says on our queen of flowers. On the 14th and 15th of August I cut magnificent blooms of *Maréchal Niel*, *Gloire de Dijon* (as usual always first and last to flower), *President Grevy*, a most beautiful dark Rose, of unusual excellence as an autumn Rose; indeed, it seems specially adapted for that purpose, it not having given me any good blooms till now. Old John Hopper again is giving fine blooms, and last year fine blooms of it were produced from a south border in my rosery, for, as "WYLD SAVAGE" says, I do not grow my Roses all in one place, those doing best now being on a north border.

Paul Neron, though he is a coarse Rose in summer, is now throwing me some really magnificent blooms of beautiful form; *Capitaine Christy*, too, has just been doing good service. I cut some really beautiful blooms of this lovely Rose on August 15th. *Madame Victor Verdier*, *Madame Charles Wood*, *Sénateur Vaisse*, and *Souvenir de la Malmaison* have

been doing splendidly, the latter being now covered with fine blooms. I cannot omit to mention *Perfection des Blanchés*, although of no use as a show variety. It is covered with buds and blooms, and looks as if it would continue flowering for a long time to come; indeed, there is no variety I know so useful for cutting blooms from for the drawing-room and other places where Roses are much used for decorating. Louis Van Houtte is now blooming freely. Many other varieties I could mention, but I must content myself with the few already named.—SHROPSHIRE GARDENER.

KALOSANTHES COCCINEA CULTURE.

As greenhouse plants of easy culture, suitable alike for the small house of the amateur and the imposing conservatory of the aristocrat, *Kalosanthus* are specially recommendable. Large specimens also have a telling effect in collections of plants at the summer exhibitions. Their neat fleshy leaves and compact growth render the plants anything but unsightly even when not in flower, but when covered with their glowing trusses they are really gorgeous; they continue also a long time in beauty. Quite small plants in 4 or 5-inch pots, each having one stem terminating with a head of flowers, are extremely useful for many purposes of decoration; and plants in proportionally larger pots, with from six to twenty and more heads of flowers, are splendid objects where large plants and rich masses of colour are required.

For producing small plants for flowering next summer cuttings should be inserted at the present time. The extremities of strong healthy shoots should be cut off about 4 inches in length, an inch of the base of each cutting being divested of leaves. The cuttings after being made should lie on a shelf for a few hours for the sap to dry-up and the wounds to heal. Each cutting should then be firmly inserted in the centre of a small pot in a compost of loam, crushed bricks, and silver sand, and be placed on a shelf in the greenhouse, and not shaded from the sun. The soil must be kept moderately moist but by no means wet, and each cutting will emit roots speedily. Water may then be given more freely for a short time until the pots become quite filled with roots, when it must then be given less copiously, and be gradually withheld as the dark days of winter approach. The plants must remain in the same pots on a dry light shelf throughout the winter, and for three months (November, December, and January), scarcely any water should be given to them, but the leaves should be permitted to become limp and flaccid, and if they lose their bright green tint no harm will result. The partially-drying process induces the flower heads to form in the tips of the plants, and as the spring approaches they may be plainly felt, each tip when pressed between the finger and thumb feeling as if it contained a small nut. When in that state and the days become lighter and longer the plants may be watered again, and the limp leaves will become rigid and their pale brown colour will change to a lively green.

They may then be shifted into their flowering pots, 48's, potting them firmly in turfy loam and a little old dried cow dung, incorporating also crushed bricks and charcoal freely. The plants must still have a very light place on a shelf in the greenhouse, and must have plenty of air to keep them dwarf and sturdy in habit. In due time the flowers will expand, and not many plants will be found more useful nor be more generally admired. A dozen or a hundred of such plants—as may be required—should be grown in all gardens where attractive flowers are coveted during the early summer months. Few plants can be produced more easily, and scarcely any flower with greater certainty when managed as above described, but it is important that no delay occurs in inserting the cuttings. I have occasionally had good flowering plants from cuttings inserted in September, but August is the better month.

When the plants have ceased flowering water should be partially withheld, and they should be cut-down to within 4 or 5 inches of the root. Fresh growths will then form, which must be thinned-out to the number required, and the plants be repotted, removing a portion of the old soil. Growth should be encouraged until October, when the plants should be partially dried as before. When cut-down early and well managed the young growths will flower the following year, but otherwise they will not all do so; and when really fine plants are required it is well to have two sets of them, so that a clear summer's growth can be afforded—one set of plants flowering, and the others growing for the following year's display. Satisfactory results are then sure to follow, and plants produced

which will do credit to any cultivator and add beauty to any conservatory.

A few attractive sorts are *coccinea superba*, *splendens*, *Napoleon grandiflora* and *miniata*, the first named being, perhaps, the best of the quartet.—EX-HIBITOR.

TEBBS' UNIVERSAL TRAVELLING POT.

UNDER the above rather formidable yet expressive name a paper flower "pot" has been submitted to us by Messrs. Blake and Mackenzie, which we regard as a very simple, sensible, and serviceable invention. The following advantages are claimed by the inventors for this novel flower pot—great saving of

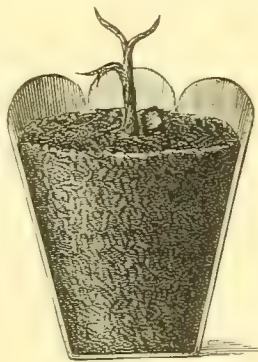


Fig. 37.
Showing plant placed in one of the pots.



Fig. 38.
Ready for market, &c., or carrying by hand.

time in packing, as no mossing-down is required. Plants packed in these pots occupy considerably less than the usual space, and, being unbreakable, can be packed close together, thus making a saving in packages. The plants being turned

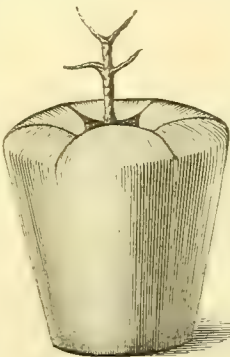


Fig. 39.
Plant packed for sending long distances.

out of their ordinary pots reduces their weight to nearly one-half, thus reducing the important item of carriage considerably. They are also cheaper than ordinary pots—an important consideration where large quantities of plants are sent away, as the pots they have been growing in can be retained for home purposes only. Where large quantities of plants are sent out for immediate planting or bedding, or for market purposes, the saving of labour and cartage will be considerable.

The above engravings show how the pots are to be used—viz., turn a plant out of the ordinary flower pot, and while holding the ball in one hand place one of the paper pots over it, press it down, and fold down the flaps; these keep the whole in shape. They are made of strong brown paper lined with a waterproof material to retain the moisture about the roots, thus preventing the plants suffering through any delay in transit. Upon arriving at their destination they can be replaced into the same sized pots from whence they were originally taken, or shifted into larger, or planted out as required. The paper pots are made at a cheap rate of various sizes from 2½ inches to 6 inches in diameter, and larger sizes will afterwards be introduced if required.

THE ROSE ELECTION.

VERY hurriedly a line in reply to "H. C.'s" suggestion as to the limit of seventy-two varieties instead of forty-eight. I think I recognise him and wish I could meet his views, but already several of those named have returned their voting papers, though I am sorry to add that thus far the nurserymen are sadly in arrears, and comparatively few have returned lists. I am afraid the suggestion coming so late would rather interfere with the present election. I have no objection to try and meet him this way. Very few amateurs, I fancy, ever stage seventy-two, and it would perhaps interfere with the election

to suggest seventy-two to any but the largest amateur growers. If "H. C." will use his influence with, say, a dozen of the southern growers, getting them to name seventy-two, I will on receiving the replies from him tabulate the results after the forty-eight election.

To the forty-eight exhibition Rose election I shall be glad to have replies without delay. I propose now to leave the date for closing open to the middle of September, and want replies from successful exhibitors, marking—1st, the best twelve exhibition Roses; 2nd, the next best twelve, and then the next best twenty-four. If placed in order of merit, so much the better.—JOSEPH HINTON, *Warminster*.

GRAPES.

SOME time ago a Grape was brought out (I think by Messrs. Veitch & Sons) called the Champion Muscat. Referring to their catalogue just issued, as well as to those of some other nurserymen, I find no mention is made of it in their list of Grapes. Can anyone tell me why this is the case? as here it is one of the very finest both in bunch and berry that I ever saw—it is simply grand, and the flavour is superb; in my estimation it is the best Grape I ever tasted. I have seen it described as a grizzle in colour, here it is a rich red purple, certainly not a black, but a beautiful colour with a light bloom. It is a strong grower, and ripens well in a cool house or even a ground vinery. Taking it altogether it is the most desirable Grape I have. Then why is it no longer in the lists of Grapes?

My Venn's Muscat has proved itself totally distinct from the old Muscat Hamburg, its growth being exceedingly strong and it is extremely prolific. Even now, though the fruit is nearly ripe, fresh bunches are continually appearing on the laterals. The flavour is different to the Muscat Hamburg, and it ripens well in a cool house. The berries are not so large as the old variety, but still of fair size, therefore I place it as good, and later than the Muscat Champion. I have also a house of Mrs. Pince's Muscat, a wonderful crop and colouring well. How is it that one scarcely ever sees this fine Grape well finished? Madresfield Court is doing well, but does not come up to the foregoing. I have planted a Duke of Buccleuch, but it seems delicate. Has anyone done well with it? It is a weak grower with me, but I think very highly of it as a white Grape, and Pearson's Golden Queen as an amber from what I have seen and tasted; but, as I have said at the beginning of this article, the Grape of Grapes for me is the Champion Muscat.—HARRISON WEIR, *Weirleigh, Brenchley, Kent*.

THE POTATO DISEASE IN SOUTH WALES.

I HAVE seen Potatoes grown and Potatoes diseased in many parts of the country, but I never saw them so badly affected as they are in this neighbourhood this season. Until about the middle of July there were no signs of spot or blemish on stem or tuber, but then we had much muggy mild wet weather; and since then Potatoes have gone bad on all soils in a most violent manner. Many of them became quite black and decayed in the stems in a few nights, and the roots were affected as quickly. Rivers' Royal Ashleaf Kidney was one of the worst, and although the tubers were lifted and dried and stored in a shed carefully, many of those which looked perfectly sound have since become soft and decayed. Gloucestershire Kidney was not quite so much decayed as Rivers', but the Cornish Kidney is much worse. Prince of Wales, Giant King, Early Mealy, Model, Robson's Champion, Walnut-leaf Kidney, and Snowflake are so bad that not over ten per cent. of them are fit for use. The only two kinds which remain good are Breeze's King of the Earlies and Climax. Like all the others the crop of these is heavy, and it is to be regretted they are not drier when cooked. King of the Earlies especially is very seldom mealy. Our late varieties, which include Paterson's Victoria, Paterson's Blues, Regents, Rocks, and Sutton's Red-skin Flourball, are not lifted yet, but I fear they will be as bad as the others, as the stems are quite black.

Several writers have advised lifting the roots as soon as the stems show signs of becoming black, let the tubers be ripe or unripe. With the exception of Rivers' not one of ours was ripe when the stems became black, and many of them not half swelled. As yet I have failed to learn, either by practice or reading, that lifting these half-swelled Potatoes is the best thing to do to preserve them when attacked by the disease. Wet weather is the sure propagator and promoter of disease. A few days' rain will start decay, and should wet continue

it will progress rapidly; but when dry weather follows the disease is checked and ceases to spread, while the tubers continue swelling and become matured. But what is the result when the tubers are lifted at the first appearance of disease before they are much more than half swelled or half ripe? Simply this, such Potatoes are never good for food; and as for seed, they are not fit to plant anywhere. How can they? What kind of produce would any gardener expect from such as Peas or any other kitchen-garden seed which was gathered before it was half grown and put away into some shed to shrivel up and dry? Plant Potatoes next year from those lifted before they were matured this season and they may grow, but their growth will be weak and their constitution weaker, and therefore much more subject to disease. For these reasons I am never in too great a hurry to lift Potatoes until I am sure they are ripening, even although a few more of them should fall a prey to the plague.

In a wet season like this I do not think situation is of much avail to ward off the disease. We have Potatoes growing in three different gardens, in light soil and heavy soil, and they are all much the same. In the cottage gardens, where some are high, some low, some surrounded by trees and others fully exposed, none have escaped. The farmers have not begun to lift their field crops yet, but I see the stems there are also black and withering up. Altogether it is one of the most unprosperous Potato years that has ever been known about here; and I doubt it is not much better all over Wales, as Mr. Pettigrew, the Marquis of Bute's gardener at Cardiff Castle, and Mr. Slater, Lord Cawdor's gardener at Stackpool, told me the other day that there was great cause for complaint in those districts.—J. MUIR, *Margam Park*.

THE ROSE'S HISTORY.

THE Rose was known more than 2500 years ago, for it is mentioned both by Solomon and Isaiah. It could not escape their notice, for it is common in Judaea. Sandys, one of our earliest travellers, found Roses wild and abundant near Jerusalem; and Doubleday, another early traveller, mentions that there were hedges formed of Rose bushes. In the flower market at Athens it held a prominent position, for the Greeks esteemed it the most beautiful of flowers, and therefore appropriately dedicated it to Venus. All the Roman writers on the culture of the soil include special directions for the propagation and management of Roses. As the emblem of youth the Rose was dedicated to Aurora, of love and beauty to Venus, of danger and instability to Cupid. It was given by the latter as a bribe to Harpocrates the god of silence; whence perhaps originated the custom, of which we are told by Rosenbergius, that obtained among the northern nations of Europe, of suspending a Rose from the ceiling over the upper end of their tables when it was intended that what passed at their entertainments should be secret. And this undoubtedly is the origin of the common expression "Under the Rose." The ancients tell us that Roses originally were white, but were changed to red by the blood of Venus when her feet were lacerated by their prickles in her attempt to protect Adonis from the rage of Mars. Theocritus, and Bion, however, are of opinion that it was the blood of Adonis himself that altered their colour. Another tale relates that Cupid, leading a dance in heaven, stumbled and overset a bowl of nectar, which falling upon the earth stained the Rose. Ausonius has made the Rose blush from the blood of Cupid. Busbequins informs us that the Turks have a similar superstition upon the subject, and believe that Roses originated from the sweat of their prophet Mahomet. Nor has the ingenuity of monkish writers been at a loss to stamp Roses in some measure with divinity, though in a different manner. Marulus tells a story of a holy virgin named Dorothea, who suffered martyrdom in Caesarea under the government of Fabricius, and who converted to Christianity a scribe named Theophilus by sending him some Roses in the winter time out of Paradise. A golden Rose was considered so honourable a present that none but crowned heads were thought worthy either to give or to receive it. Roses of this kind were sometimes consecrated by the Popes upon Good Friday, and given to such potentates as it was their particular interest or wish to load with favours; the flower itself being an emblem of the mortality of the body, and the metal of which it was composed of the immortality of the soul. Boethius says that William King of Scotland received a present of this sort from Pope Alexander III., and Henry VIII. is recorded to have had a similar gift from Alexander VI. The

seal of Luther, which is well known to have been a Rose, may have been symbolical of the same things as the golden presents of the Popes. Roses were employed by the Roman emperors as a means of conferring honours upon their most famous generals, whom they allowed to add a Rose to the ornaments of their shields, a custom which continued long after the Roman empire had ceased to exist, and the vestiges of which may yet be traced in the armorial bearings of many of the ancient noble families of Europe.

It is a mistake to suppose that double Roses are of somewhat modern origin, since they are particularly mentioned by Herodotus, Athenæus, and Theophrastus, and more especially by Pliny, who enumerates several sorts, among which is a centifolia. It is remarkable that Pliny does not mention the Rose of Pæstum, nor any growing in that neighbourhood. This omission makes it impossible even to guess at what was meant by the "biferi Rosaria Pæsti." The only Rose Mr. Woods found about Pæstum was *R. sempervirens*.

The name Rose is derived by De Theis from the Celtic *rhodd* or *rhudd*, signifying red, whence, he thinks, have originated the synonymous names *rhos* in Armorican, *rodon* in Greek, and *rosha* in Slavonian.

The Rose was first assumed as a device by Edward III.'s sons. John of Gaunt, Duke of Lancaster, adopted the red Rose, and his brother Edward, Duke of York, adopted the white Rose. By marriage in 1486 the two Roses were united and became the royal badge of England. The 67th Regiment, called also the South Hampshire Regiment, bear what is termed "The Hampshire Rose" as a badge on their colours. The legend is that it was given to the Hampshire trained bands by Henry V. for their gallantry at the Battle of Agincourt. Mr. Reynolds Hole says that the Rose, born in the east, has been diffused, like the sunlight, over all the world. A flower, writes Pliny, known to all nations equally with wine, Myrtle, and oil. It is found in every quarter of the globe—on glaciers, in deserts, on mountains, in marshes, in forests, in valleys, and on plains. The Esquimaux, as Boitard tells us in his interesting "Monographie de la Rose," adorn their hair and their raiment of deer and seal skin with the beautiful blossoms of the *Rosa nitida*, which grows abundantly under their stunted shrubs. The Creoles of Georgia twine the white flowers of *Rosa lævigata* among their sable locks, plucking them from the lower branches of climbing plants which attach themselves to the garden trees of the forest, and bloom profusely on their boles and boughs. The parched shores of the Gulf of Bengal are covered during the spring with a beautiful white Rose, found also in China and Nepal; while in vast thickets of the beautiful *Rosa sempervirens* (a native also of China) the tigers of Bengal and the crocodiles of the Ganges are known to lie in wait for their prey. The north-west of Asia, which has been called the fatherland of the Rose, introduces to our notice the *Rosa centifolia*, the most esteemed and renowned of all, with which the fair Georgians and Circassians enhance their fairness.

In modern times Lyte, writing in 1578, says the calyx was then called "the five brothers of the Rose, whereof two have beards, two have none, and the fifth hath but half a one." He says the white Rose was the *Rosa Damascena*; the red Roses were called "of the common people Double Roses;" a third kind were called Roses of Provence and Damaske Roses; a fourth kind smelling of cassia was the Civet Rose or Bastard Musk Rose; and a fifth the Musk Rose. Parkinson, in 1629, states that he had "thirty sorts at the least, every one notably different from the other, and all in the garden fit to be entertained." The double yellow, he adds, was introduced from Constantinople "by Master Nicholas Lete, a worthy merchant of London;" but his trees failed, and it was subsequently established here by another merchant, "Master John de Franqueville." Lobel, in 1581, published engravings of ten species, but Dr. Lindley in his "*Rosarum Monographia*" particularises 101 species. There are now probably more than three thousand varieties, for in 1829 Desportes published a catalogue of 2562.

WILD FLOWERS FOR DECORATION.

PIMPINELLA SAXIFRAGA (Burnet-leaved Saxifrage) has umbels of exquisite white flowers, compact in growth; the stem is firm, and the whole plant fairy-like. Just now I have vases, &c., filled with it and Purple Heath; Ferns as foliage. It grows most abundantly on Red Hill, and no doubt on most commons; looked down upon the flowers seem like most delicate

lace. I find wild flowers most effective when massed. Snow-drops dotted about in moss, Cowslips and Bluebells, Primroses and their leaves, Forget-me-nots and Sweet² Woodruff, Ox-eye Daisies, Bluebottles, fresh grass flowers, and a little scarlet are charming. For foliage nothing can be prettier than Tansy (such lovely shades of yellow-green), Cow Parsley, or Earth Nut.

Of all our wild flowers Ox-eye Daisies are the most effective for decoration. They set off exotics well, and last a very long time.—BOTANIST, Red Hill.

OUTDOOR PEACH-GROWING.

It is to be feared that not only is the Peach crop scanty this year, but that the trees themselves are in many cases irreparably injured. Such I am sorry to say is the case with many of them here, although they were covered with frigi domo every cold night from the 27th of February till June. They also had coping-boards more than a foot wide above them, and I am almost positive that the frost never actually touched them once. We have generally had much lower temperatures and the trees have gone through unscathed, but the lower temperatures have seldom lasted so long, and Peaches have rarely been so forward as they were last February. On the 27th of that month many flowers were fully expanded; the covering was put on them for the first time, and we had 11° frost; 12° followed the night after, and this was the lowest temperature registered during the season. But much dull weather with east wind came next, which had the effect of producing a semi-congelation of sap, and causing the trees to remain in a glorious mass of bloom for a longer time than I ever remember to have noticed before. It is always a bad sign when the bloom remains long on fruit trees, they must be moving forward or they will go back. The cutting east wind rendered progression impossible, therefore they did go back, and the memory of the gorgeous bloom is nearly all we have left to pay for our trouble.

Well, what is to be done? Shall we give it up? Oh, no! I think to be successful three years out of four with outdoor Peaches in this country is much more than we have a right to expect. We may not have such another untoward season during the next decade. "But it takes a decade to grow a Peach tree to a fair size." I know it does according to one system of growing it, but there are at least two other systems by which a wall may be completely furnished in two or three years, and they both have the advantage of being much more simple than the orthodox plan. One is the cordon, and this is, perhaps, as good as any where the soil is light and poor; the other system I do not know what to call it, and must therefore attempt to describe it. Maiden plants are placed against a wall upright, about 4 feet apart, and the laterals, instead of being stopped as for a cordon, are tacked-in at regular intervals and obliquely on each side. To make the most of the time the trees must be planted as early in November as it is safe to move them, and the knife must not be used on them till the following midsummer unless to remove an odd shoot from the back of them. Any superfluous shoots may be partially disbudded in spring, and finally removed with a clean cut when the leaves are fully grown. It is possible with this system to have a wall fully covered and a fair crop of fruit in little more than two years and a half from the time of planting maiden trees.

Although all the older trees have suffered more or less from the severity of the weather, none of the maidens planted last autumn have done badly, but are now in excellent health, owing, I think, to their having received a check through removal, and consequently starting into growth at a more favourable season.

I have an idea of planting several screens of Hornbeam across the borders at right angles with the wall as a shelter from the east wind.

For constitution, quality, and succession, perhaps the following half-dozen sorts are as good as any—viz., Early Beatrice, Early Louise, Hale's Early Grosse Mignonne, B. Negarde, and Barrington. Three good Nectarines are Lord Napier, Violette Hative, and Pitmaston Orange.—WILLIAM TAYLOR.

TROPEOLUM SPECIOSUM.

I NOTICED that at a late meeting of the Floral Committee Mr. Wilson exhibited a spray of this charming creeper, which he had grown successfully in a shady place. I have been equally successful in growing it in the full sun, so much so

that my friends in Scotland from whom I procured the bulbs were very much surprised to find that it had flowered with me, as it has done, the first year. I am therefore hopeful that we may succeed down south with it as well as in Scotland, and I intend myself to try it in various aspects this next season. In Scotland it is almost a weed; in fact I heard of one place in which it was treated as such. But we have not arrived quite at that yet, still it is satisfactory to find that it can be grown in the south.—D., *Deal*.

HOW TO MAKE MUSHROOM BEDS.

THE season is near at hand when those who intend to grow Mushrooms during the winter will have to do their best to procure good materials for making beds to grow this delicious esculent. No doubt many will say there are plenty of instructions before the public already whereby the merest tyro can find sufficient information, and that practical men do not need lectures on this head. All very well; but still I may have my say about the affair, being no novice in the matter. Thirty years ago I had Mushroom beds in a brick pit where Melons were grown during summer, and in which a small pipe gave surface heat. This pit was cleared during September preparatory to forming the Mushroom beds. Those beds yielded a long succession of good Mushrooms, and so strong in them was the run of the spawn that it came right through the brickwork, and very good Mushrooms grew all along where the path joined the wall.

During last autumn I prepared materials much in the same way as I had done thirty years ago, but this time the bed was made in an outhouse in which we could not command any heat. This bed was made up about the middle of October, and, as in the former case, I had the dung from the bottom of a deep pit into which the dung from the stables had been thrown during the summer months. Eight or ten cartloads of this manure had become white while pressed down in the dung pit; during this time it had become one mass of white mouldiness. We forked out the longest of the litter, not rejecting the short bits of straw, and took good care while it was laid in a heap outdoors that no rain fell upon it. When it gave evidence there would not be any violent heat in the bed when made up, we had it taken indoors. About three good cartloads were placed in one bed, having about four barrowfuls of good fresh soil mixed with this manure, thus giving the bed substance and firmness after being well trodden down, which is much better than beds made up entirely of dried horse droppings, in which case they are often a mere soft fluffy heap of short dry dung, and but seldom bear over half the time beds generally do when prepared as stated above. Our bed was about 18 inches deep, and as the first violent heat in the dung had been spent while in the dung pit we had no violent heat in the bed, and therefore we could spawn it the sooner. This bed began yielding rather sparingly early in December, but afterwards yielded abundantly, and continued doing so for seven months. Always give a good depth to Mushroom beds, they repay well for it; and do not make them with damp materials, which often give off a violent heat at first and short yieldings.—G. DAWSON, *St. John's Nursery, Worcester*.

VARIORUM NOTES ON ROSES—PERENNIALS.

I CAN endorse much that "WYLD SAVAGE" says about autumn-blooming Roses. Pierre Notting does not do well in the summer, because, like most dark Roses and all that have much tint of purple, it cannot stand sun. The same is especially true of Mons. Boncenne, which is rarely seen good except shaded. Here I never cut a perfect bloom unless there has been nearly a fortnight of dull weather. For perpetual blooming recommend me to La France; there is no other Rose to touch it except Gloire de Dijon and the old Monthly. The reason why Emilie Hausburg so often does best in autumn is that its bud is round instead of conical, and the outer petals are hardly large enough. There is no more perfect-shaped Rose when it has time given it to expand, but hot dry weather and long sunny days do not suit it. Another Rose he has not mentioned is Thomas Methven, another of the round-budded flowers, but one of the most beautiful at times, still a hard opener in summer. Again, for autumn-blooming there are three Noisettes—America, Céline Forestier, and Triomphe de Rennes; and why should we omit the old Général Jacqueminot? Charles Lefebvre is another of those Roses which require shade in the middle of the day. Madame Victor Verdier, Alfred

Colomb, and Marie Baumann are generally better in summer than autumn; but as a rule few Roses can stand early pruning, then severe weather in March and April followed with hot dry weather in May and June, and where Roses are pruned early in early soils many of the Roses come to maturity too soon.

"WYLD SAVAGE" has in his notes on Roses touched from time to time on several points on which I feel inclined to add a few remarks. First as to disbudding. I am sure that this may be overdone, especially as it adds much to the merit of a stand in close competition to see good extra buds and foliage. Some few kinds, as Baroness Rothschild, Paul Neron, and a few others, if I may use the expression, seem to disbud themselves, as it is seldom that one sees more than one bud on a stem; but some of our strong-growing sorts, as John Hopper, can stand the extra buds without injuring the blooms.

Again, is it not a mistake for amateurs who wish to exhibit in thirty-six and forty-eight to grow too few kinds? There are many neglected sorts, as François Louvat, M. Boutin, Duchesse de Morny, Madame Caillat, Berthe Baron, Cécile de Chabillant, Duchesse de Caylus, Madame C. Wood, and others I could name which ought to be more grown. I agree with him that Annie Wood is capricious, but I occasionally cut Roses from it worthy of any stand. Madame Clemence Joigneux and Antoine Ducher are another pair of good old Roses which are in danger of being cast on one side, though perhaps neither of them will do for exhibition purposes. Another Rose I have seen very good is Clement Marot, and also Lord Suffield. No Rose offener disappoints me than Mons. Noman; the least damp weather and the petals glue together. The same is the case with Madame Lacharme. I have not, unfortunately, been in the way of seeing new Roses this year, and should like to know if any of the new ones beat Marquise de Castellane, Etienne Levet, and Miss Hassard in their colours: the latter seems to me a real acquisition. Shall I be talking treason when I say I cannot think Cheshunt Hybrid can ever be a very perfect exhibition Rose? It grows well with me, blooms freely, but always hangs its head and is rough and quartered. I know Mr. George Paul sets great store by it, but I think he has sent out many a better. It seems to me, if that can be the case, as if it had three crosses of blood in it—a cross between a Tea and a Bourbon, crossed again with Duke of Edinburgh or a Hybrid Perpetual of that class. At all events there is so little of the true Tea in it that it can hardly be classed amongst the Teas. Wilson Saunders seems a very fine-coloured Rose and stands the sun well. I should like to know other persons' experience with regard to it.

A question has been asked and answered as to zinc labels. Is it not more likely true that shoots on which labels are fastened die away because persons are too fond of keeping in the old wood on which the label is fastened instead of cutting it away and tying a new one on to a fresh shoot? The older shoots on trees, especially on the Manetti stock, are more apt to die away than younger. Indeed, as I have before said in your Journal, it is the nature of Roses to recuperate themselves from the base; and if you wish to have good blooms and strong shoots always cut away all shoots that are more than two years old. This of course does not apply to standards or well-trained trees.

What course would "WYLD SAVAGE" recommend me to adopt to grow Tea Roses in the open ground in this part of Yorkshire? Some do fairly well, but they are generally disappointing. I will in return give him a list of perennials for his perennial border; but I shall promise him it shall not be a very long one, for let him beware of the snare of trying to grow too many kinds on the same border and same aspect. Add to those he has named good varieties of Pentstemons, and Delphiniums, and Gladioli; and for early blooming Antirrhinums, Sweet Williams, with Polyanthuses, Auriculas, and Anemones for front of the border, to be followed afterwards with Sedum Fabaria or spectabile and other dwarf Sedums. Another plant to be added, though not strictly perennial, is Myosotis dissitiflora; and patches of Golden Thyme, if not allowed to overgrow, look well in front. But the proper place for a perennial border is in front of a shrubbery and not too near the house, in my opinion.—C. P. P.

TRIGONIDIUM OBTUSUM.

THIS is a pretty though small Orchid, native of tropical America, with few coriaceous leaves and orange-brown flowers. This genus is scarcely known in cultivation, and botanically is quite distinct from every other. It belongs to the Vandees.

The species are all epiphytal, and bear solitary flowers on erect scapes; the sepals are nearly equal, forming a tube below and spreading above. The petals of *T. obtusum* are very small, almost hidden within the tube, and the labellum is even still smaller. It is easily cultivated in a warm house, and several plants in a pot make an attractive specimen.—L. K.

VICTORIA PARK.

SITUATED as it is in a neighbourhood densely populated by the industrial classes, this Park serves an important purpose, and serves it admirably, of affording wholesome means of exercise and recreation to those to whom such provision is especially beneficial, and, which is particularly gratifying, is warmly appreciated. None of the metropolitan parks are more thoroughly enjoyed than this is, and none are more worthy of the patronage that is bestowed on it by the many thousands of visitors who seek repose in its shady walks, take exercise on its ample lakes, and derive salutary gratification from its brilliant flowers. Owing to the extent and excellence of the floral decorations in past years Victoria Park has won much more than local fame—fame which has increased yearly, and which is splendidly sustained in the display of the present season. Those who delight in witnessing examples of floral decoration in various aspects—old-fashioned mixed border ornamentation savouring of the taste of the past, middle-aged lawn embellishment as exemplified in the Geranium-massing period, and modern artistic decoration embodied in semi-tropical masses and geometrical carpet beds—can enjoy all these modes, and the best examples of each, in this attractive Park. The skilful Superintendent of Victoria Park, Mr. McIntyre, takes a broad and comprehensive view of the subject of garden ornamentation. He is alive to the fact that the British public, for whose benefit the public parks were established, have varied tastes, and have a habit of closely examining and keenly criticising their floral fare, and hence he provides accordingly, and the provision is varied and excellent. He has no sympathy with those who denounce any one style of garden decoration, but, on the contrary, believes that each system is worthy of his best efforts. The mixed border has its own charms and its appropriate position, and so with floral masses and carpet beds. He is right. Does anyone doubt it? Remove, then, in fancy, for it is not likely to be so in fact, any one of these features from the Park, and the blank created will settle the point.

The beauty of the flowers in this Park is greatly enhanced by their setting—the handsome evergreens, especially Hollies, and the rich greenery of the deciduous trees and shrubs. These form a background and a foil which contribute in a powerful manner to the general effect. Take the small division, for instance, known as the West Park. The flowers are bright and beautiful unquestionably, but this portion would not be nearly so attractive were it not for the grand pyramids of Hollies. These, judiciously disposed, relieve what would otherwise be a tiring monotony of colour. A large circular raised mound in this division of the Park is especially noteworthy. It is surmounted with fine cones of variegated Hollies, literally in a “ring fence”—namely, a dwarf hedge of Aucubas. From the hedge to the walk the ground slopes sharply, and is effectively planted with flowers in concentric rings, festoons, and diamonds of contrasting colours, such as *Coleuses*, *Centaureas*, *Geraniums*, *Golden Feather*, &c., edged with *Echeverias*. This fine group is near the south-west entrance of the Park, and worthily commands much notice from the visitors. But bold as it is, it is only a trifle—an appetiser of the feast to follow. Turning one's back on this first instalment we find the mixed border stretching away on the left, a broad fringe to the belt of trees and shrubs which mark the western boundary of the park. This flower border is 7 or 8 feet wide and nearly a mile long. The order of planting, to speak paradoxically, consists in its irregularity. In this border there is always something to attract. In the early spring the bulbs which have been planted freely contribute their meed of beauty. A fine collection of Irises follow with clumps of spring flowers, notably the Iberises. *I. corifolia* is represented by large dense semi-globular plants, which in the early summer are masses of purity. This, one of the finest of hardy border plants, is planted alternately and at intervals of a few yards with earlier-flowering sorts, such as *I. sempervirens* and others. Then there are Pinks, sweet common Pinks, by hundreds, with the contrasting blue of stately Delphiniums. Campanulas, Antirrhinums, Phloxes, Foxgloves, Lilies, annuals, &c., contribute

their share of beauty during the summer, and in the autumn the *Helianthus*es, *Dahlias*, *Michaelmas Daisies*, and *Tritomas* are the principal “back plants,” and fine they are, with *Gladioluses*, *China Asters*, &c., in front. Between the border and the broad walk is a stretch of well-kept lawn containing flower beds at intervals filled with *Geraniums*, *Verbenas*, *Calceolarias*, &c., and the effect of one style of decoration increases that of the other. In these isolated beds the newer varieties of *Geraniums* are grown, and such of them as prove worthy are afterwards honoured by a place in the chief flower garden.

This is in the next division of the Park, and passing by several beds of *Yuccas* (how splendidly *Y. recurva* flourishes here!) it is soon reached. It is on the opposite side of the walk, and is in a large recess—that is, the lawn containing the flower beds has a bold crescent-shaped background of trees and shrubs. Between the flowers and the shrubs further relief is afforded by some fine specimens of American *Aloes* in tubs. The flower beds are large, and are uniform and simple in outline—circles of about 10 feet in diameter, and oblongs of the same width and from 20 to 40 feet long between the circles. The front row of beds next the broad walk are carpet beds and are strikingly beautiful, the remaining beds—the oblongs—being chiefly planted with *Geraniums*, with one or two in the back circular line of *Ageratum mexicanum*. The round beds are nearly all planted with *Coleus Verschaffelti*—beds which for perfectness of outline and richness of colour have never been surpassed. Good and well-worked soil, free healthy plants, and very close planting have produced these fine beds. They are edged with such contrasting colours as *Gnaphalium lanatum*, variegated *Geraniums*, *Golden Stellaria*, and dwarf *Lobelias*. The *Golden Chickweed* is in splendid colour, much brighter than the *Golden Feather*. It has been stated that before *Geraniums* are admitted into this garden they must have given proof of their satisfying qualities as bedders. They are tested simply on their merits. An old sort is not despised because it is old, nor over-estimated because it is new. It must be good, have upright trusses, free, level, distinct, and continuous, and then it matters not from whence it came or at what date it was introduced, it has a place of honour in this design, where nothing must be left to chance, but every bed must be as perfect as it is possible to produce it. Note now the few *Geraniums* that come up to the high standard required. As a strong grower for large back beds *Lucius* is unsurpassed; as a medium grower of glowing crimson colour *Waltham Seedling* is pre-eminent; while another of Mr. Paul's varieties (*Nimrod*) makes the best orange-scarlet beds; and as a pure dwarf scarlet *Vesuvius* bears the palm. The best of all the pinks is *Cleopatra*, but *Christine* is also not yet discarded, and the best salmon is the old *Madame Rudersdorff*. The beds of the sorts named are simply grand, and to all appearance will continue so for some time, while those of some of the newer sorts with larger trusses, produced more or less “side-ways,” have been injured beyond recovery by the late rains. The scarlet beds are chiefly banded with silver-variegated *Geraniums*, and edged with *Lobelias*; and the pinks with soft yellow-leaved *Geraniums* and silver *Gnaphaliums*. There are a few light beds, one for instance of the old friend *Flower of the Day*; but *Princess Alexandra* is perhaps the best bedder in this section, and as an edging plant none surpass *Flower of Spring*. These *Geraniums*, associated with such plants as *Iresine Lindenii*, which is extensively and well grown here, afford an agreeable change to the higher colours. The best yellow edging *Geranium* is *Robert Fish*. *Creed's Seedling* is also good, and *Crystal Palace Gem* makes an agreeable bed. The edgings of *Lobelias* here demand special notice. *Blue Stone* is dark and fairly compact, but *L. pumila grandiflora* surpasses all others by its close cushion-like growth and its wonderful profusion of bright blue flowers. These edgings can only be expressed in one word—excellent. One large bed of singular form in the centre of the group is distinct from the others; it is much raised and is very conspicuous. It is a long scroll-like bed with bold triangular spurs. In the centre of each wing is a triangle of Mrs. Pollock *Geranium* followed in order with broad bands of *Coleus*, silver-variegated *Geranium*, *Iresine Lindenii*, *Robert Fish Geranium*, and two rows of *Echeveria secunda glauca*—an arrangement which is strikingly effective.

There remain yet the carpet beds to be noticed. What can be said about them? An “inner voice” whispers, “Let them alone”—prudent advice which one would gladly follow were it possible that all who are interested could visit the beds and see for themselves; but they cannot, and yet they would like

some idea of their nature. The beds are in duplicate—some round, others oblong. They are all carpeted with the smooth green *Mentha* (*M. Pulegium gibraltaria*). How suddenly popular has this plant become! How marvellous has been its increase! No plant, not even Golden Feather, established its position as a general favourite more quickly. But what beside the *Mentha*? Let just one bed be noticed as an example, an oblong bed 20 feet long by about 12 feet wide. The carpet of this square is *Mentha*. From the centre of the bed rises another bed about 4 or 5 feet long and 3 wide; it is distinctly above the *Mentha* level. The sides—the batter—being planted with two tiers of *Echeveria secunda* glauca, with an inner row, just on the level, of the green *Sempervivum arvense*. The surface of the bed is divided into longitudinal panels with curved lines of *Echeverias*, the interpaces being filled with *Alternantheras*. In the centre is a plant of *Sempervivum tabulaforme* in a narrow ring of Golden Feather. At each end of the raised square and at proper distances from it are two round beds raised above the *Mentha* in the same manner. They are 3 feet in diameter. The edges and centres are the same as in the square elevation. In the body of each centre is formed a star, the rays being of *Echeverias* and narrow wire-like lines of Golden Feather, the interpaces being filled with *Alternantheras* in brilliant colour, with a single plant of *Pachyphyton* in each spur. The effect is rich yet chaste. The other beds are of the same character, but with a different and well-wrought-out geometrical pattern in the carpet of *Mentha*. The narrow golden streaks of *Pyrethrum* in these beds have a cheerful effect. "Don't like yellow in carpet beds," does someone mutter? Well, others do, and even those who do not are provided for: for leave this brilliant example of flower gardening and follow a twisting walk between the shrubs, stealing a glimpse in passing through the vistas and admiring the scenery beyond—richly clad mounds of foliage, smooth dells, and glistening water scenes, and you arrive at another group of beds with not a flower in them, and no yellow foliage. Here note the luxuriance of the "tropicals"—the *Wigandias*, *Cannas*, *Indiarubbers*, *Loquats*, &c., and the Fern-like masses of *Acacia lophantha*. Look at the quiet carpet bed at your feet—no colour there, all is neutral. The carpet is of *Sedum glaucum* dotted with *Cactuses*, *Haworthias*, *Gasterias*, and dwarf *Aloes*. Does that please? "Too tame" is it, Mr. Hypercrite? Well, pass on, there is much to admire *en route*—the trees, the shrubs, and the "peeps" between them, and yet another series of carpet beds compels a pause. The beds are nearly all round, and all are planted differently, some soft, some gay, but all beautiful. Describe them. No, an emphatic no. Go and see them and—find fault. Look at the central bed—the scroll. It is called the "jewel bed"—a happy name, for the small bright designs and single plants at wide intervals in the broad green expanse of *Mentha* render the name appropriate.

No doubt many turn from these beds with a feeling of disappointment. Why? Because they cannot produce the like at home; and why not? Let Mr. McIntyre answer. He has been a successful gentleman's gardener, and now he is a successful Government park superintendent, but he admits readily and willingly that as a private gardener he could not achieve such high-class decorative results. In a gentleman's garden a hundred things require attention; the resources are divided, and decoration and bedding can only have its share. Here in the Park it is the one object, and all the resources, all the conveniences, all the skill are devoted to that object, hence success. It is only fair to mention this. Yet let all visit the parks of London who can do so, for they will gain from them many a hint that will serve them well in their home duties.

Much more in Victoria Park deserves to be noticed—many excellent isolated beds. In one the new dark green carpet plant *Herniaria glabra*, or rather an old plant devoted to a new purpose. It is hardy, close-growing, and a rich full green. The rockery so varied with alpine gems, *Cactuses*, *Aloes*, *Hydrangeas*, *Palms*, and *Monstera*s; the groves and avenues all merit inspection and approval, but the mere recording of them must now suffice.

The whole of the plants employed are raised and wintered in small houses in the Park. In the summer the houses are occupied with ornamental-foliaged plants, such as *Caladiums*, *Coluseas*, &c., with the laudable object of decorating the rooms and tents in which the thrifty inhabitants of the district hold their little exhibitions of window plants and florist flowers. The *Coluseas* after serving their purpose are destroyed, and the *Caladiums* are placed under the stages, so that they do not

occupy useful space during the winter. Mr. McIntyre takes great pleasure in thus aiding his neighbours, and he speaks approvingly of the prudential habits of many of the industrial classes at the "east end," adducing as proof the following fact which is highly worthy of being recorded. Near the Park is a noble hospital for diseases of the chest, supported by voluntary contributions. In order to support this institution, and at the same time to command its benefit, workmen's clubs are established in the locality, the members of which contribute their pence weekly until sufficient accumulates to purchase a life governorship. The members then ballot for the purpose of deciding who shall represent them as life governor. It is a most commendable system, and an honour to the district of Bethnal Green. Bethnal Green is really a "green" now and something more. Formerly a waste, a receptacle for broken pots and refuse, it is now an attractive square with lawns, walks, and flower beds. It was levelled, laid out, and planted by Mr. McIntyre, who has done his work admirably. The shrubs and trees are growing freely, although a smoky mist hangs over them almost daily, and a spacious and ornamental pleasure ground is now established.

Victoria Park is highly worthy of a visit by all who are desirous of seeing effective and artistic flower garden decoration, and an inspection of the beds will repay for even a very long journey. It is best reached by rail from the Liverpool Street station, booking to Cambridge Heath. Many err by going from Broad Street to the Victoria Park station, which is a long distance from the flower beds.

The Superintendent of this Park, like most able men, can afford to be generous, and he is desirous that the experienced head gardener at the Park, Mr. Bullen, should have his full share of the credit which is due to him for the manner in which the decorations are carried out.—J. W.

NEW ROSES.

I SELDOM buy these on weak stocks, as my situation is so exposed and unsuitable for infants. The best that I have seen lately are Queen of Waltham and the Star of Waltham. They are very good and specially suitable for exhibiting. They are on weak stocks, and have done wonderfully well for plants on weak stocks. I have ordered six of each on strong Manetti stocks to be reserved for me in the autumn, which I should not have done had they not been worthy. Till Roses are put on strong and suitable stocks and are established in the soil we cannot tell their full merits. It strikes me that new Roses are often written "up" or written "down"—according to fancy, or favouritism, or non-favouritism—before they have emerged from the weakness of infancy. Some raisers cannot do right, and some cannot do wrong.—W. F. RADCLIFFE.

NOTES AND GLEANINGS.

MR. NATHAN COLE has received the following letter from Balmoral, dated August 25th, 1877:—"Major-General Ponsonby is commanded by the Queen to thank Mr. N. Cole for the copy of his work on the 'Royal Parks and Gardens of London' which he has presented to Her Majesty."

—ACCOUNTS continue to reach us from various districts on the great virulence of the POTATO DISEASE. We can offer no better means of limiting the injury than by spreading the tubers very thinly in sheds and covering them with dry sand, to exclude the air and absorb the moisture. A correspondent suggests dusting them with lime—an experiment which may be easily tried, which cannot do harm and may do good. Potatoes which are infected are better left in the ground for a time until the weather is cooler, than being taken up and stored thickly in heaps, where they often heat rapidly and decay speedily.

—MUCH damage has been done in various districts by recent STORMS and FLOODS. A Lancashire correspondent writes that "flower gardens are despoiled of their beauty and the plants are seriously broken and injured. In the low-lying districts gardens have been flooded, and many acres of Potatoes and other crops have been under water." In the south showers have been frequent, and the flowers in the London parks have lost their brilliancy. The carpet beds, however, look as bright as ever. The Potato disease is spreading, green crops growing, and weeds where undisturbed are making considerable progress.

—MR. MOWBRAY, gardener to the Earl of Leven and

Melville, informs us that his neighbour Mr. Wood, gardener to Sir Erskine Perry of Fulmer, near Slough, has upwards of fifty flowers on one stem of *LILIUM AURATUM*, the plant being grown in an 8-inch pot. The plan of culture adopted by Mr. Wood is to shake out the plants, removing all the soil from the roots, immediately the flowers fade, and repot in fresh compost—loam, leaf soil, and sand, and place out of doors. The plants are buried in ashes out of doors, and there pass the winter. We shall be glad to hear more precise particulars respecting these plants and Mr. Wood's successful mode of growing them.

— OUR readers will be glad to learn that the success of the CARLISLE INTERNATIONAL EXHIBITION is now rendered certain by the large number of entries and the completeness of the arrangements made by an energetic Committee. The preparations are nearly finished and the show-ground enclosed, and the erection of the marquees has commenced. Horticultural buildings and many miscellaneous articles have also begun to occupy the space allotted to them. The weather, too, has fortunately improved, and everything looks favourable for the Exhibition next week, which will be a great success if the bright days continue. The large premiums offered by the Committee have attracted a great number of competitors, and exhibitors are daily applying for space. The general attractions of the Show will be numerous and varied, and not the least will be the presence of the splendid band of the 2nd Life Guards in uniform during the three days, under the leadership of Mr. Winterbottom. The Judges' dinner will be presided over by the Lord-Lieutenant of Cumberland, Lord Muncester, the Mayor of Carlisle being Vice-Chairman, and will be attended by a distinguished company, including the ladies who will honour this Exhibition by acting as Judges of the bouquets and cut flowers.

— WE are requested to state, that in consequence of the Great International Show at Carlisle being held next week, the usual monthly meeting and dinner of the HORTICULTURAL CLUB will be held on September 18th, instead of September 4th.

— WE have received from Mr. Moorman a sample of the SNOWFLAKE POTATO, asking our opinion of them. It is as follows:—More attractive-looking Potatoes were never grown. The tubers are of the right size for table and contain few eyes, and these small and indistinct, involving a minimum of waste in paring. When cooked the Potatoes are almost as white as snow and are extremely delicate in flavour. They are not like the proverbial "balls of flour," but are sufficiently mealy for many palates. Not a speck of disease was found on the tubers. As Snowflake is productive it must be pronounced an excellent second-early variety for table use, and its handsome appearance renders it indispensable for exhibition purposes.

— THE DAHLIA QUARTER in Mr. Turner's nursery at Slough is now highly worthy of inspection. Although late, the show varieties are producing some grand blooms, and the bouquet and bedding varieties are in splendid condition. Yellow Pet amongst the bedders is especially fine, but all are good and eminently worthy of culture for producing a rich and varied effect during the late summer and autumn months. The Carnations are nearly all layered—a splendid and unrivalled stock, and the winter-flowering varieties are remarkable by their health and numbers. Chrysanthemums appear to be receiving special attention, and a grand and novel display may be anticipated. The standard plants are unusually fine, the grafted heads being as healthy as those not grafted. The plants were kept close for a week or two when the grafts were put on, but they are now growing in the open air, the unions being complete. The huge Roses in pots are under glass; they have made excellent growth, and will shortly be placed in the open air for a week or two. Camellias, Azaleas, and Oranges are in admirable condition. The Camellias are placed continental fashion—between close rows of Lombardy Poplars, where they have shade without drip. Liliiums, especially *L. auratum*, are remarkably fine. Roses are flowering with great freedom, but some not flowering are particularly noteworthy—plants in pots of *Maréchal Niel* for roof-decoration, this season's growth of which is wonderful. The carpet and other bedding render this nursery additionally attractive during the summer; but the great feature during the next six weeks will be the Dahlias above noticed.

— AN effort is being made by the inhabitants in the neighbourhood of Kew to have the gardens opened at an earlier hour than one o'clock, also to prevent the wall which surrounds the gardens being raised beyond its present height. It will be

desirable to open the gardens earlier, particularly on special occasions, such as bank holidays, if that can be done consistently with securing their efficient management. The changes which are being sought for, and apparently in a reasonable manner, are worthy of much consideration on the part of the authorities.

— MR. W. TAYLOR writes to us that POTATOES ARE WORSE DISEASED at Longleat than they have been for many years. Ashleaf and Myatt's Prolific were taken up early in July before the last-named sort was fully grown, as the disease was already very threatening. Not a tuber of these has taken the disease, and all are perfectly sound excepting where the skin was broken by rough handling, and these have shrivelled somewhat. They require very careful handling when taken up early. Fortyfolds, Dalmahoy's, Regents, and other second earlies were too small to be of any use when the disease appeared. In the light soils the disease does not appear to be quite so bad as it is in heavy soils.

— A CARLISLE correspondent writes that visitors to the great Show will find much to attract in the admirably-kept nursery of Messrs. Little & Ballantyne; also in the nurseries of Messrs. Clarke, Brothers, Stanwix; Messrs. J. Hamilton and Sons, Messrs. Joseph Hamilton & Son, Mr. Armstrong, Belah Gardens, &c. There are many fine gardens belonging to noblemen and gentlemen within short distances of Carlisle worthy of a visit, and visitors will be freely welcomed at them all during the International Show. Our correspondent especially recommends a visit to Lowther Castle, the seat of the Earl of Lonsdale; Brougham Hall, Lord Brougham; Eden Hall, Sir R. C. Musgrave, Bart.; Corby Castle and the lovely scenery of Corby woods, Philip Howard, Esq.; Naworth Castle, the Earl of Carlisle; Rickerby House, Miles MacInnes, Esq.; Netherby, Sir F. U. Graham, Bart.; and last, though not least, the unequalled beauties of Drumlanrig Castle, the seat of his Grace the Duke of Buccleuch: these are within easy distance of Carlisle, and can be reached by rail or road.

NOTES FROM CORNISH GARDENS.

LAMORRAN.

In a quiet secluded valley, amidst steep hilly wooded slopes in a cosy nook at the head of the waters of Lamorran Creek, away from the beaten track of the busy world's highway, is the residence of the Hon. and Rev. J. T. Boscawen, well known to men of science and horticulturists as a wise counsellor and friend, who, although thus living apparently apart from the world, is one of its most busy workers, ever ready to aid in promoting those arts which he loves and understands so well, and who has turned the very quietness and seclusion of his home to good account by solving many a horticultural problem, evolving lessons of such value by the wonderful results obtained in his garden that I can think of no more fitting title for it than that of a book written by the hand of a master, every page of which contains lessons as novel as they are useful.

It has very lately been my privilege to enjoy the hospitality of Mr. Boscawen—to see his garden, to study the lessons which it teaches, and in some measure to grasp their meaning, sufficiently so I hope to enable me to explain their full significance, and to show how what is really a great and pioneer work may be accomplished within small bounds and without many of those facilities which by many gardeners are considered indispensable to success. It was not long ago that I strongly enforced the importance of planting objects of interest in gardens. At Lamorran this principle was long ago understood and acted upon, and the result in this sense is a garden so abounding in plants and trees that are alike so varied and beautiful as to positively embarrass one. It is a veritable storehouse of treasures rich and rare, so skillfully cultivated and arranged in such good taste as to be always fresh and always attractive.

When Lamorran House was built upon a narrow plateau upon the face of and near the foot of a steep slope Mr. Boscawen had to make immediate provision for screening both it and the garden, which he contemplated making, from the scathing blasts which so frequently rush in from the mighty Atlantic over every part of Cornwall. Dense wild woods clothed the slopes and shut in the valley above the house; but below it was the bare expanse of water, a gradually widening valley with trees on the hillsides beyond the water, but with its own particular slope almost bare of trees. What was to be done? Throw up a barrier and plant sturdy fast-growing trees across the valley down to the very edge of the water? Expediency might suggest such a course, but correct taste never would

agree to it, for the work would clash with every line and curve of nature. The difficulty was overcome skilfully and well by making tree-clothed banks from the natural slope at an irregular acute angle up the valley, so as to offer the least amount of resistance to the wind while it turned it away past the garden completely. The natural appearance of these screens, the perfect shelter which they afford, and their entire harmony with the position and its surroundings, form a valuable study, and convey a lesson in landscape gardening of the utmost value, so intimately do they combine the ornamental and useful.

The site of the garden itself is a long steep hillside, or rather a series of irregular grassy slopes, stretching from a point high up the valley's lofty side downwards to a road skirting the margin of the water. It is traversed by walks winding along and up the banks in picturesque irregularity among shrub groups consisting principally of *Rhododendrons* and *Azaleas*,

in perfect health and very vigorous growth, mingled with other rare and choice shrubs and a pleasing variety of Conifers and deciduous trees—trees planted by Mr. Boscawen, and now become so large as to really merit the appellation of fine. The pleasure with which one regards the trees arises from the skilful way in which they are arranged and are made to blend and become merged with the wild growth of the wood beyond, up to which they lead, as well as from the elegant and stately appearance which most of them present individually.

The most conspicuous trees are a number of magnificent examples of *Pinus insignis*. This tree as seen here is certainly worthy of its title of "the Remarkable Pine." All are in perfect health, and some are wonderfully vigorous, being 80 feet high, with huge rugged stems feathered with branches to the ground, clothed with foliage of that bright rich green tint which makes this tree so striking, and for which it is so

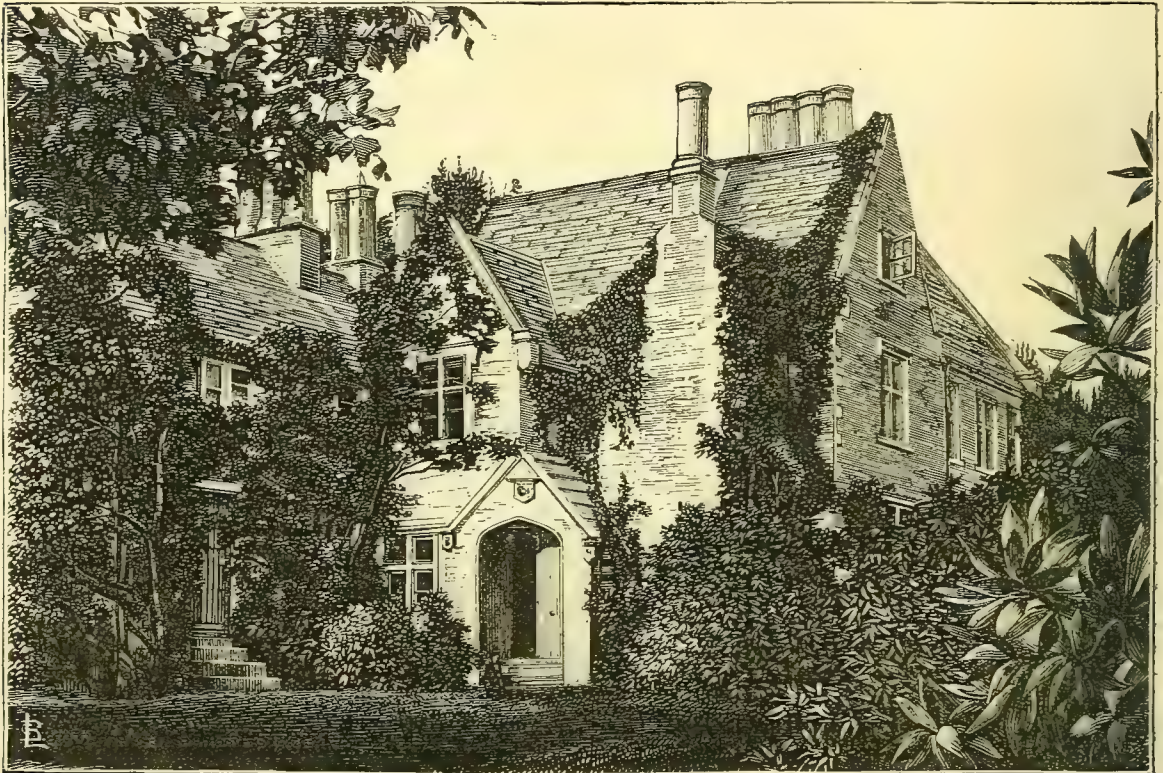


Fig. 40.—LAMORRAN.

much valued. It makes a splendid tree, and judging from what subsequently came under my notice during my tour in Cornwall I have no hesitation in saying that it is quite the best Pine for that county. It bears exposure perfectly, it becomes established quickly, grows with singular rapidity, and its timber is really valuable, some boards of it which Mr. Boscawen had nailed upon the gable of a building twelve years ago and there left fully exposed without any covering of paint being still perfectly sound and free from any traces of decay.

Several other Conifers must have notice, and first most worthily comes a noble specimen of *Sequoia sempervirens*, the Californian Redwood tree, to which a very picturesque effect has been imparted by cutting off the lower branches so as to show the curious bright red spongy bark, so soft as to yield to the slightest touch. *Picea cephalonica* is well represented by some excellent specimens; it is one of our best Conifers, superior to *P. pinsapo*, but unfortunately not quite so hardy in many situations. *Cupressus Lambertiana*, *Thuja Lobbi*, the rough-barked Mexican Pine, *Pinus Montezumae*, *Pinus maritima*, and *Cedrus atlantica* are all growing into fine specimens here, *Cedrus atlantica* being especially remarkable for its strong free growth and perfect health, offering a striking contrast to the stunted sickly appearance of the *Deodar*, which is evidently not happy here. I was glad to see *Picea Webbiana* in excellent condition and evidently full of growth, but it is

questionable whether it will attain to a very large size, as it is already producing cones. Among other rare Conifers is a beautiful specimen of *Fitzroya patagonica* 10 feet high, a perfect gem, with graceful pendulous growth, forming an object of great beauty; and, wonderful to tell, there is actually a flourishing specimen of *Dacrydium Franklii* here, surpassing all other weeping trees in the elegance of its long, graceful, pendant branches. It is curious to see how quickly even the leading branches conform to the general character of the whole tree, for after a very brief growth upwards down they go, falling over each other in no regular order, but with an easy careless air full of grace, to which the somewhat loose clothing of leafage adds another charm. The position of this *Dacrydium* undoubtedly contributes something to its effect; and I may usefully note here how much more telling pendant-growing trees are when planted on slopes above a walk than when seen on a plateau or level lawn. They are, moreover, equally effective upon soft gentle slopes and steep rocky declivities; while, on the contrary, trees of such precise growth and rigid aspect as the *Araucaria* are not in keeping with soft lines and sweeping curves, but require scenery of bolder, wilder, sterner aspect.

First among other varieties comes the Palm, a magnificent specimen of *Chamærops Fortunei* 16 feet 4 inches in height—a tree of stately aspect most pleasant to the sight, for it is

without a single blemish; the huge green foliage presenting a striking contrast to the battered, lacerated, forlorn, decaying aspect under which this Palm is too often seen when grown in tubs and afforded the shelter of a conservatory in winter. I believe this to be by far the finest specimen established in the open air in this country. It stands low down on the Lamorran slopes, well sheltered but yet growing alone on a little eminence close by the gigantic Sequoia with its huge red bole and lofty symmetrical growth, affording a striking contrast, and forming a worthy associate to it, although so totally diverse in character. There are other smaller Palms upon different parts of the slopes, all of them in good health and evidently growing freely.

Andromeda formosa grows here into huge shrubs 6 feet high. *Erica codonodes* is also perfectly wonderful, having the proportions and air of a shrub. Many specimens of it which

fringe a broad walk at intervals are apparently fully 10 feet high; they grow upon the side of a steep bank with the lower branches spreading downwards to its foot, and the top one clusters upwards erect and plume-like. A fine specimen of *Olea ilicifolia* 8 feet high proves perfectly hardy, having passed unscathed through frosts which have cut off Bays to the ground. *Aralia japonica* (Sieboldi) is so large that its handsome foliage has a fine effect as seen in contrast with that of surrounding trees. A flourishing tree of the Glastonbury Thorn, raised from a graft taken from the original plant at Glastonbury the year before it died, is a great curiosity, as it never fails to have flowers open on Christmas day. In appearance it is identical with the common Thorn.

Rhododendrons and Azaleas are to be seen in every part of the grounds; the whole of them are choice kinds, and many of the Rhododendrons are so rare as to be quite in keeping with

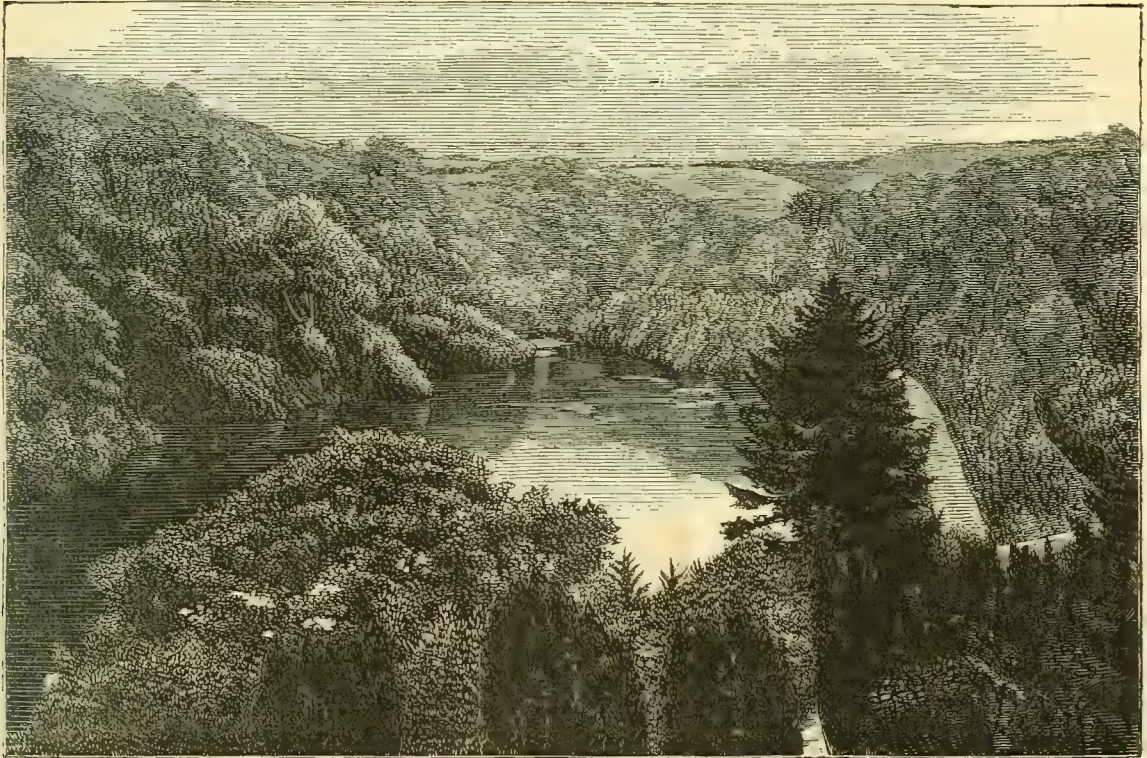


Fig. 41.—LAMORRAN—VIEW IN THE GROUNDS.

the other treasures of this wonderful garden. Himalayan kinds, such as *arboreum*, *arboreum niveum*, and *arboreum cinnamomeum*, prove perfectly hardy here. The flowers of these, with many other choice species and varieties, have for years been subjected to such careful and skilful manipulation that the place abounds with seedlings raised here by Mr. Boscawen, who began this highly important work with a stock of some 140 sorts about twenty-six years ago. The majority of the kinds so raised prove very early; so much so that the first flowers are often cut off soon after they expand, to be quickly succeeded by others which are not unfrequently also destroyed prematurely. The wood-growth and foliage are so hardy that Mr. Boscawen considers them most worthy of cultivation in every garden where a spare glass house could be had to protect them when in flower; for the flowers are so lovely, ranging through such charming gradations of colour, as to well repay for the work of lifting them and planting temporarily under shelter for the flowering season. That the plan is practical there can be no doubt, for we have no shrub that bears removal so well as the Rhododendron.

The consummate taste displayed in the grouping and blending of various trees and shrubs here affords a valuable lesson. Deciduous trees and Conifers are alike well chosen and well placed, and in no garden that I have ever seen can we so well appreciate the full value and beauty of the Tulip Tree, Birch,

Acacia, Scarlet Oak, Lime, Butter Nut (*Juglans cinerea*), *Arbutus*, Sugar Maple (*Acer saccharinum*), and Copper Beech, every one of which affords relief and harmonious contrast to the somewhat formal aspect of the Conifers. This is a matter not nearly so well understood as it ought to be, and is so important as to merit special attention, hence I propose to refer to the subject on a future occasion.

So many objects of interest occur at every turn in this garden, and all are so good, that we hardly know what to select and what to leave unmentioned. Virginian Creepers climb the stems and festoon the branches of lofty trees, to blend their brilliant crimson autumnal tints with the various yellow shades of the trees to which they cling. Lilies abound here. *L. giganteum* has spikes more than 10 feet high, and it has sometimes exceeded 12 feet. *L. auratum*, of course, finds a home here. There are numerous fine spikes of it, some with flowers just expanding, others will be much later. Many of them are planted singly in irregular semicircles of Rhododendrons by the margin of the paths, which thus afford shelter, while the deep green foliage forms a charming foil to the delicate tints of the flowers. *Lilium martagon* was in full bloom; its flowers though small are very striking from their brilliant rich scarlet colour. Rhododendron *Thompsoni* is wonderfully vigorous. *Lapageria rosea* is thoroughly established on the house (fig. 40), to the right of the principal entrance;

it is some 20 feet high, is growing most strongly, and has a considerable number of flower buds which, strange to say, all spring from the old branches. One flower was just expanding, and others will follow for some time to come.

In spring time and early summer, Crocus, Snowdrops, Narcissus, Scilla, and a host of other spring beauties which have their bulbs permanently established deep down beneath the turf out of reach of the mice, push their growth through it by thousands, bursting into flower a myriad of vernal gems, which thus change the grassy slopes into one vast flower garden—an easy and delightful method of spring gardening which will commend itself to everyone, for who would not like to see their lawns under such a novel and charming aspect? Nor is the treat confined solely to spring, for under the branches of the Conifers and such shrubs as appear suitable there are Cyclamens of all sorts, Atkinsi, persicum, Coum, and hederacifolium in all their varieties, with europæum, repandum, ibericum, vernum, and macrophyllum. Under the Pinus insignis there are whole beds of them covered by the old Pine needles, which are never removed but are left to gradually form a tawny carpet, through which the pretty flowers push their way all through the winter months. I like this plan of leaving the old Pine needles; the effect is picturesque, natural, and certainly not untidy.

A new feature here is an adit which has been driven through the shale of an upper slope. Along its sides are various nooks and corners—just so many snug little homes for rarities, of which there is already a goodly store. On these, however, I must not dwell; nor must I do more than call attention to the numerous panfuls and beds of seedlings of shrubs and flowers, every one of which may fairly be expected to prove "something fresh," for they are all raised from seed resulting from the cross-breeding and hybridising which Mr. Boscawen is constantly carrying on. I am tempted to dwell upon these, but space forbids. A closing paragraph on the romantic scenery of Lamorran must conclude my notes on this remarkable garden.

Lamorran is like a poet's dream—always beautiful, yet ever changing and presenting some new charm to the fascinated eye. The long graceful sweep of the valley; the bright glistening waters stretching far away, cool and still, yet abounding with life; the lofty hillside clothed down to the water's edge with a dense growth of trees, the tops of which mark the flowing undulations of the slopes like the billows of the sea; the pretty church standing amidst the graves of those who worshipped within its walls long ago close by the water's edge, reminding one of those romantic old kirkyards still to be found on the margin of many a Scottish loch; the house in the very heart of the valley, deep down yet commanding its most pleasing features, all combine to form a scene of romantic beauty such as mere description can convey but a very faint idea of, but which is in a good measure represented by the accompanying engraving (fig. 41). On the last morning of my visit, a bright and sunny day, the picture from the terrace was perfect. There was a charming play of light and shade among the trees which cast their shadows far out on the quiet waters of the creek, where the eye rested on a foreground of a large patch of Water Lily, past which swam slowly a white swan and her train of dusky cygnets. Wild ducks too were there, tamed for the moment under the influence of the quietness around them. A fringe of Fern, mingled with pendant branches of Mountain Ash laden with bright scarlet berries along the water's edge; while high overhead sailed white fleecy clouds, chequering the deep blue of the sky.

I am requested by Mr. Boscawen to invite any lover of nature to call and see this charming valley and its garden; and I have no doubt that those whom these notes may induce to do so will agree with me that it is most beautiful—replete with varied charms, and the very embodiment of repose.—EDWARD LUCKHURST.

ROMNEYA COULTERI AT GLASNEVIN.—The *Irish Farmers' Gazette* describes a specimen of this which was only struck from a cutting in the spring of last year and is now some 6 feet high, 4 or more through, and every branch and branchlet terminated by a flower or flower bud. The expanded flower is fully 6 inches across, quite flat, delicate in texture, and pure white in colour; from the centre rises a great ball of gold, formed by the close globular aggregation of anthers innumerable, forming with the petals a brilliant and beautiful contrast of white and gold. The protection afforded the plant during the past winter

was of the most trivial kind, and it is doubtful if even this was absolutely necessary; a slight protection over the roots we apprehend being all really required, perhaps not even that. The present cold, sunless, and weeping summer was by no means best calculated to bring out its grand flowers in the quality and profusion seen under Californian light and sunshine. Nevertheless here we have it now blooming freely and profusely for some weeks, and likely to continue to do so for weeks to come. In its regard, therefore, three things are, we think, very fairly established—firstly, its perennial character; secondly, its hardihood; and thirdly, its early flowering and very striking and highly ornamental aspect.

TAKING-UP POTATOES.

I CAN testify to the soundness of Mr. Luckhurst's and "NORTHERN GARDENER'S" remarks on early lifting of the Potato crop, or the pulling-up of the haulms (not cutting, as it only partially arrests the disease). But here in Dorset we seem to be in the same predicament as "NORTHERN GARDENER;" the murrain has destroyed one-half the crop before the main crop Potatoes have ceased swelling.

We have just lifted (August 22nd) a piece of Paterson's Victoria Potato, where the haulm was pulled away the 28th of July, and we have a fair crop and next to none diseased, but adjoining the same sort with the same treatment (excepting the tops being taken away) one-half are diseased.

We had a plot planted with Snowflake Potato, and as the time could not be spared the haulm was pulled away, and now they are just lifted, all good-sized tubers, about three bushels per perch, none diseased.

Removing the haulm is thought by many cottagers to be useless, but in every case I have found they delayed doing it till the stalks were much affected. I find it best to leave the Potatoes in the ground for two or three weeks after the tops are drawn away, if a convenient place cannot be found to dry and ripen them before storing.—A. P.

ROYAL HORTICULTURAL SOCIETY.

AUGUST 24TH.

FRUIT COMMITTEE.—Henry Webb, Esq., V.P., in the chair. The meeting was held at the Society's Garden, Chiswick. The collection of Tomatoes, which have been grown in pots under glass, were first examined. The collection is represented by over sixty differently named varieties, two plants of each being grown. These the Committee had arranged into classes as distinct in appearance, and amounting in all to thirty-one, which number may, however, be still further reduced or increased when further examined in comparison with those growing in the open air. These Tomatoes at the present time are most interesting and well worthy of inspection. The smallest variety is represented by Red Currant, of about the same size as a Currant; the largest variety is The Trophy; the earliest is The Early Gem, and the latest De Laye's, which is of little value.

First class certificates were awarded to Little Gem (Bliss), a medium-sized, round, deep red variety, very free-fruited and very early; to New Improved (Vick), a large smooth ovate variety of a distinct rosy crimson colour, free-fruited; to Vilmorin's Large Red (Vilmorin), a very large slightly-ribbed variety and a wonderful cropper; to Trophy (Carter & Co., Veitch, Wheeler), an exceeding large nearly smooth red variety, of fine appearance and late. Hathaway's Excelior was found to well merit the certificate that was awarded to it some time ago; also Green Gage (Carter), as being by far the best yellow variety. Conqueror, One Hundred Days, and Portsmouth amongst the new varieties were greatly admired.

The collection of cordon-trained Peaches and Nectarines on open wall were next examined. These trees, which have this season done good service, are in perfect health, and many of them are bearing heavy crops. Prominent amongst all others stands the Lord Napier Nectarine, which was awarded a first-class certificate. The fruit is very large, roundish oblate, of a deep dark purplish colour; the flesh is pale throughout, of rich and excellent flavour, having a dash of the Stanwick in it. It is of fine constitution and a free bearer.

Turnips were next examined. Of these a very extensive trial has been made. The earliest varieties were found to be the American Strap-leaf, White and Red-topped. This is an exceedingly fine Turnip, and completely takes the place of the old White Dutch, which seems to be almost worn out; at least, no true or good stocks of it have been grown here. Following these come the Early Red Top, the Red Globe, and the Early Six-weeks or Snowball, which has numerous synonyms. This is the main-crop garden Turnip, and the finest of all. Of other

varieties—all good enough in their season, but including no novelties—were noted a very good stock of the Long Vertus pointed-rooted, which comes in very early, and is much used in France, although not in this country; the Round Black or Chirk Castle, an excellent autumn sort; the Yellow Finland, Yellow Malta, Orange Jelly, &c. The whole of those dry-fleshed Turnips—as the Teltaner and others, so esteemed in some parts of the Continent—proved a failure, as well as many of the varieties generally grown for field culture. A later sowing of Turnips has been made which will be in due course examined. The collection of Savoy, it may be mentioned, are now nearly ready for inspection.

FLORAL COMMITTEE.—Mr. John Fraser in the chair. This meeting was held at Chiswick on August 27th. The Committee proceeded with the examination of the zonal Pelargoniums, of which there is a large collection planted out this season. Many of the sorts have suffered severely from the recent heavy rains, but the following varieties, being in excellent condition, were deemed worthy of first-class certificates—viz., Excelsior (Denny), scarlet, with distinct white eye; Charles Smith (Pearson), dark scarlet; Mrs. Huish (Pearson), magenta scarlet; Portia (Donny), magenta scarlet; Mabel Eden (Pearson), light magenta; Lais (Denny), magenta scarlet; Mrs. Holden (Pearson), rosy pink; Mrs. Lancaster (Pearson), rosy pink; Lord Giffard (George), bright scarlet. Among the older varieties Triomphe de Stella, Golden Harry Hieover, Vesta, Rose of Summer, Claude de la Meurthe, Arthur Pearson, Princess of Wales, Mrs. Turner, Christine, Cleopatra, Lady Emily, and Snowdon were conspicuous.

The collection of Pelargoniums, consisting of all the newer varieties which have this season been grown under glass, was then examined, and the following being considered very suitable for pot culture were awarded first-class certificates—viz., Miss Wakefield (Pearson), orange scarlet; Louis (Pearson), rosy purple; Lustrous (George), very bright scarlet; Lady Eva Campbell (Pearson), salmon; Mrs. Pearson (Pearson), bright orange scarlet. Among other varieties Thibse, Charles Smith, Miss Strachan, Lizzie Brooks, Rebecca, Blanche Gordon, and Lord Zetland were especially noticeable.

The double Pelargoniums, consisting of a selection of the best varieties of last season and new sorts received during the present year, were then examined, and first-class certificates awarded to the following—viz., Deputé Aneelon (Lemoine), deep magenta rose, and Le Nord Est, bright scarlet. Madame Thibaut, Noemie, O. Gligm, Auguste Villame, Meteor Flag, Mrs. Trevor Clarke, Madame Amilio Baltet were also very fine.

ASTERS.—A large collection of these now in full bloom was then examined, and the following were highly commended as being excellent stocks—viz., *Pomponne* (Dippe Bros.).—Of erect moderately bushy habit, producing very close compact heads of flower. *Diamond* (Haage & Schmidt).—This seems to be a larger and more vigorous-growing variety of the *Pomponne*. *Dwarf Chrysanthemum-flowered* (Dippe Bros.; Carter & Co.).—This is perhaps the best variety of any for general use, never exceeding 10 inches in height, and yielding in great profusion very large and well-formed flowers. *Victoria Asters*.—This to all appearance seems to be a tall-growing variety of the *Chrysanthemum-flowered*. *Betteridge's Exhibition Quilled*.—A very distinct and pleasing variety, throwing the flowers well up; and, being of a hardy constitution, does not seem to be affected by rough weather. A full report on these will appear in the Society's Journal.

DIANTHUSES.—Of these beautiful annuals a very large collection has this season been grown, and on examination the following received first-class certificates—viz., *Heddewigi hybridus flore-pleno* (Benary), *Heddewigi laciniatus* (Benary), *Hedewigi hybridus atro-purpureus* (Benary), *Chinensis flore-pleno* (Benary), *Imperialis flore-pleno* (Benary), *Heddewigi plenissimus splendens* (Haage & Schmidt), and *Heddewigi* (Benary).

SELECT APPLES AND PEARS FOR THE NORTH OF ENGLAND.

HAVING been requested by a correspondent ("S. S.") to name a few choice dessert and kitchen Apples, also Pears, that will grow in the north of England—the trees being required as bushes and pyramids in a moderate-sized garden—I gladly submit a few which I have found to succeed. As I have previously observed, I do not recommend planting just one tree of a sort so as to have a great number of varieties, but prefer to have duplicates of a few sorts which I find reliable, and which afford a good succession of fruit during an ordinarily good fruit year.

I will begin by naming a few good dessert Apples, placing them in the order of ripening. Summer—Margaret, Early Harvest, and Devonshire Quarrenden. Autumn—Oslin, King of the Pippins, Red Ingestrie, Ribston Pippin, and Cox's Orange Pippin. Winter and spring—Adams' Pearmain, Court

of Wick, Claygate Pearmain, Scarlet Nonpareil, Margil, Court-pendu-plat, and Sturmer Pippin. Kitchen—Lord Suffield, Stirling Castle, Cellini, Small's Admirable, Mère de Ménage, Cox's Pomona, Warner's King, Fearn's Pippin, Holland Pippin, Yorkshire Greening, Dumelow's Seeding, Norfolk Stone Pippin, and Gooseberry Apple. The above Apples are hardy, good growers, yet tolerably compact, and free bearers.

Pears—Citron des Carmes, Williams' Bon Chrétien, Beurré d'Amanlis, Louise Bonne of Jersey, Comte de Lamy, Beurré Diel, Zéphirin Grégoire, Ne plus Meuris, Beurré Sterckmans, Knight's Monarch, Joséphine de Malines, and Bergamotte Esperen. The sorts named will afford, if planted in duplicate, sufficient fruit for a moderate-sized garden, while one tree of a sort will form a good collection for a small garden. It is advisable when information on fruit trees is requested that the number of trees required be stated.—A NORTHERN GARDENER.

A COTTAGERS' SHOW.

"*De minimis non curat*," not "*lex*" to-day, but *lectores* of the Journal. "Then why, sir, do you write about such minute things? Do you suppose the readers of the Journal want to be bothered by an account of a wretched little cottagers' show, held, too, in the wilds of Dorset? Is there no end to your words, or will the winter's snows alone suffice to stiffen the hand that writes such a pack of rubbish as 'Whitchurch Cottage Gardeners' Show?'" Thus asks, perhaps, more than one angry reader as his eyes see the above heading. Turn the page, my dear sir; skip the letter, read the ornate and clever writings to be found in the Journal on Orchids and Grape culture, and don't, please, let your anger at this article interfere with your digestion. If, however, you do, am I to blame? Are a few lines upon a cottagers' show so very inappropriate that the sub-editor should tear up the manuscript?

In some letters that I have received from kind friends I read, "I observe in your letter in the —," What? Not *Journal of Horticulture*, or *Rose Journal*, but *Cottage Gardener*, and for many years I believe this Journal was called by that name, and many people still persist in calling it so. This being the case, why not write about a cottage gardeners' flower show?

In Whitchurch Canonieorum, in the county of Dorset (from which huge parish my own little one was carved, so that I may almost say in my own parish), exists a Cottage Gardeners' Horticultural Society, which I believe is most successful. It has only existed for about three years, but it is already the most promising of any round here, and bids fair to be more so every succeeding year.

Affiliated to it is a Cottage Garden Improvement Society, which is doing useful work. Prizes are given to the best cultivated gardens in the parish, and no less than twenty-six entered their names for competition. The Judges were Mr. Carmichael, the late head gardener to the Prince of Wales, and myself, and a most difficult though pleasant task we had to perform.

The prevailing feature of the Show was, of course, the vegetables, and more particularly the Potatoes. I was again Judge, with the help of a local seedsman, and never since I was at school have I had such a hard task allotted me. Fancy me, your "WYLD SAVAGE," your demented rosarian, set down to judge fifteen entries of early round Potatoes, and with aching back and starving inwards to adjudicate on twenty-two entries of Cabbages, three in a lot!—your unfortunate correspondent, accustomed to sniff the nectar of Roses, so coming down as to inhale the perfume of fourteen stands of Onions, three of each tied in a bunch! I think even the "PARSON'S GARDENER" will pity me. I was all right when I got to the flowers, but from 11 to 2 I was kept at the vegetables. There were four kinds of Potatoes, and on an average about ten entries in each, and this occurred in two divisions, for there were both members' and cottagers' exhibits to be judged. I sustained myself in this arduous labour with the thoughts of fruit. "The Judges have the option of tasting all kinds of fruit except Pines," I said to myself over and over again as I went on at Parsnips, and Carrots, and Rhubarb; but when we came to the fruit there was by no means that bewildering quantity that I hoped to see, and what there was, was of a nature more to be appreciated in tarts than for eating uncooked. In fact, they were tart(s) in themselves. Currants of various hues, but of the same unvarying sourness; Gooseberries large but not sweet; and Apples of such a hard unpromising character as to stop all raids. One dish of dessert Apples there was.

"A Golden Pippin!" I shouted out with the same ecstasy as Columbus hailed the sight of America, and in went my teeth, entirely forgetting as I did that this excellent Apple is what is called a late-keeping sort. My fellow Judge watched my face with interest—he knew. "Ah! I thought you were a little rash," he said, as he saw anguish spreading over the face not only of a "WILD SAVAGE," but one who apparently was suffering from excruciating toothache. At last, far away in the cottagers' tent, we espied a dish of splendid Cherries. "Are they Morellos?" I ask with fear and trepidation. "They look like it; fine, dark ruby complexion, splendid Cherries. Shall I try? I will. No, they are May Dukes, splendidly ripe." "Stop," said my fellow Judge; "there is no competition, we cannot taste them."

The flowers were very attractive, and in order to encourage the cultivation of garden flowers and herbaceous plants special prizes were given, and I had the satisfaction of judging about eight exhibits of such flowers as have almost disappeared from the gardens of the wealthy; and the various collections of wild flowers staged by school children were most interesting. We were four hours judging.

After sundry amusements the prizes were paid to the fortunate winners. The Judges were cheered (most wonderful event), and so ended one of the most successful cottage exhibitions that has ever been seen by a—WILD SAVAGE.

CARPET BEDDING AT CLEVELAND HOUSE.

LIKE many others who have read of the beds which have now become famous, I resolved to avail myself of the opportunity kindly afforded by Mr. and Mrs. Ralli and judge for myself how far the reputation of this garden was merited. My visit to them has enabled me to dispel a popular idea respecting these renowned beds which I do not think has been fairly examined. I heard more than once when in London that "the Cleveland House beds ought to be done well, because the place is so small and the beds so few." I have somewhere seen it stated that by constantly repeating an error it becomes accepted as truth, and I cannot help thinking that the carpet beds in question afford a case in point. Not once did I hear the popular notion questioned, and the smallness of the beds appeared to be tacitly admitted; yet I make bold to affirm—not looking at the matter with London eyes, and not being embued with metropolitan notions and perhaps prejudices—I make bold to affirm that there is as much carpet bedding in the little garden at Cleveland House as in either of the great parks of Battersea or Hyde. So much for a popular error—a London notion—and, may I add, a countryman's correction, for there is nothing like starting fair. It is the more agreeable to make this correction, because it does not detract in the slightest degree from the decorations in the parks, which are of such excellence that both the Government which provides them and the public who enjoy them may justly be proud of the results. The remarkable beds, then, which I shall attempt to describe are not the few small patches represented, but are really extensive; they are also distinct from all others, and afford evidence of great taste in design and skill in workmanship that must be admitted by all who see them. The beds are masterpieces of decorative art, and should be seen by all who are interested in this mode of garden embellishment.

The more laboured the attempt to describe them minutely the greater probably would be the failure; a few words, therefore, need only be used, giving an outline of the character of the decorations. Let us take the centre bed in the design. It is 12 feet in diameter—a novelty of the most decided kind. The term "carpet bed" is quite inappropriate as applied to this example of decoration. Fancy a huge hollow and rather deep saucer-like dish 12 feet across with a rim a foot in diameter, and in the centre of this dish a raised mound, formed after the style of an inverted bowl, this mound being about 3 feet across the top and proportionately wider at the base, and about 3 feet high. Such is the ground-plan of the bed, and now for the mode of decoration. In the centre of the mound is an elegant specimen of *Dracæna indivisa*, rising from a circular base about 2½ feet in diameter of *Mesembryanthemum cordifolium variegatum*; this is surrounded with a ring 2 inches in diameter of *Sedum Lydium*, followed by a circle of *Echeveria secunda glauca*. Next comes a broad band about 8 inches wide of *Sedum glaucum*, in which at regular distances are richly berried clusters 6 inches across of *Nertera depressa*, each plant of *Nertera* being encircled with very small plants

of *Echeveria secunda glauca*. Next comes a narrow belt round the mound of *Alternanthera amœna*, margined with *Echeveria*. At intervals in this outer circle eight chains of the same plant descend down the sides of the mound, terminating in the lowest part of the bed—the "dish" of the saucer, each chain encircling a miniature mound of succulents, out of which springs a small plant of the silvery *Chamapucea Diacantha*. There remains now the groundwork decoration of this design—the whole interior of the saucer and sides of the central mound. It is simply planted and densely covered with the dwarf emerald green *Sedum Lydium*. There is yet the rim of the saucer to be noticed. It is a foot or more in width and rather rounded. The inner and outer circles are *Echeveria secunda glauca*, next two narrow circles of *Alternanthera amœna*, the centre of the rim being a band 6 inches wide of *Sedum glaucum*, dotted every 3 inches with small round plants of *Nertera depressa*. Such is the outline of this bed—a bed as striking in appearance as it is original in conception and artistic in execution. Every part is excellent, and, being chiefly of neutral colours enlivened with the brilliant bead-like clusters of *Nertera*, the more and the longer it is looked at the better it pleases.

Surrounding this central bed six other beds are formed. These beds are each 21 feet in length and 8 feet across at the widest end, tapering to 4 feet at the ends next the central bed. These are planted in duplicate. It is no easy task to describe them, as all will allow who have inspected them. It is popularly supposed that carpet bedding cannot be successfully carried out without dwarf blue *Lobelias*, *Alternantheras*, and *Golden Feather*; but the most striking pair of beds in this design contain no *Lobelia*, no *Golden Feather*, and only a faint streak of *Alternanthera*. The planting is somewhat as follows:—A row of raised diamond-shaped cushions is arranged down the centre. The groundwork of the bed, which is hollowed after the manner of a shallow boat, is carpeted with the green *Mentha*; above this the diamonds are raised, the largest at the wide end of the bed, the others diminishing in size to the smaller, the whole of them being banded and chained together with *Echeverias*. These diamond-shaped cushions are formed with *Sedum acre elegans*, each having a central plant of *Pachyphyton bracteosum* except the two end diamonds, the largest of which contains a small plant of *Dracæna australis*, and the smallest, a still smaller one, of *Yucca filifera*. And now to the edge of the bed. The outer margin next the grass is of *Echeverias*—a straight row; then *Sedum glaucum* dotted with *Nertera*, and an inner margin of *Echeverias*, but this inner margin is scalloped, the points terminating exactly between the points of the central row of diamonds in the body of the bed. These points end in raised mounds of succulents, each being surmounted, and this constitutes the great beauty and novelty of the bed, with a fine plant of *Nertera* quite 6 inches in diameter. This row of brilliant summits—there are fifteen of them—elevated above the green ground of the *Mentha* produce a remarkable effect—soft yet sparkling, brilliant yet chaste, the full beauty of which cannot be appreciated without being seen. The other beds are totally different in character and are extremely effective. It is not necessary to describe them, but the "square bed," which is 21 feet long by 9 feet wide, should not be passed in silence.

This is by many considered to be the most highly finished bed of all. Near each end of the bed are two pincushion-like mounds, 2 feet in height, surmounted with *Dracæna indivisa*, the four corner edges, the seams of the pincushion, being formed with a double row of *Echeverias*, *Sedum glaucum*, and *Nerteras*. The tops of the mounds are also covered with *Sedum glaucum* dotted with *Nertera*. In the centre of the bed is a raised circle nearly 3 feet in diameter containing a plant of *Agave filifera* in a carpet of *Sedum acre elegans*, and edged with *Echeverias* and *Alternantheras*. Surrounding this raised circle, and connected with it and also raised, are eight small circles of the silver *Sedum* and *Echeverias*. The edge of the bed, which is very chaste, is formed with a band about 4 inches wide of *Sedum acre elegans*, two narrow lines of *Alternantheras*, and an inner and outer margin of *Echeverias*. The groundwork of this fine bed and the sides of the mounds are planted with *Sedum Lydium*.

There is also a raised bank on one side of the lawn about 70 yards long by 4 wide; this is carpeted in the "highest style of art" with *Golden Feather*, raised chains of *Mentha*, panels of *Alternanthera*, and triangles of *Sedum glaucum*. It is a splendid bank which cannot be described without a diagram, which I had not time to trace. The Vine border is also

elaborately planted. The high character of the building is not the only charm of this garden. The plants are splendid—the chief prize-winners of the year—Heaths, Crotons, Nepenthes, Palms, Alocasias, &c. *N. Rafflesiana* has more than fifty fine pitchers; the Vines are carrying an excellent crop, and have made capital growth for future crops. The kitchen garden is well worked and cropped—in fact the condition of the garden in every department testifies to the industry and skill of its successful manager. The owners of the garden, Mr. and Mrs. Ralli, deserve a hearty vote of thanks for generously permitting all comers to inspect the flower beds, &c., on one day in each week—Friday. The beds will continue attractive for a few weeks to come, but the sooner they are seen now the better.

I have now to state a "surprise." A letter informs me that this is the fifth and last season of Mr. Legg's services at Cleveland House, but a gardener who has given such good proof of his competency and has been so signally successful cannot be long out of harness.—A NORTHERN GARDENER.

THE POTATO DISEASE.

THIS much-dreaded visitor made its appearance here about three weeks ago. It appeared first in the early sorts of the Potato. Up to that time the tops of all sorts of Potatoes looked remarkably well, and as the damp cloudy weather continued, with seldom more than one dry day or two in the course of a week, great fears were had respecting the crop. When the Potatoes were attacked the tops of some were pulled off. But pulled off or not, all very quickly rotted and had a very disagreeable smell. The later sorts are now nearly all going bad, and soon there will not be a green top of Potatoes to be seen anywhere in the neighbourhood. Some are lifting their crops and spreading their tubers out in sheds, &c., and places under cover, so they can be seen and easy to get at, in order to pick out the decaying tubers. How would it do to cover them over for a few hours with fresh-slaked lime? Could it be any means to arrest the disease or keep the air from operating upon them? From present appearances it is feared that one-quarter if not one-third of a good crop is already affected.—G. DAWSON, *St. John's Nursery, Worcester.*

FRENCH ROSE GARDENS.—No. 1.

IVRY-SUR-SEINE.

A ROSARIAN in Paris naturally bethinks himself, amongst other things, of French Rose-growers. Accordingly I attempted a visit to Monsieur Levêque, "Grand Fleuriste" at Ivry. Starting from the Pont du Roi as it calls itself, or Pont National as the tickets call it, or Pont Napoleon as it going to be? I journeyed down the Seine on one of the river boats. Very charming those happily-called "hirondelles" certainly are, as like our Thames boats as an Arab is to a cart horse. It is a short one hour's sail. First past the still ghastly skeleton of the Tuileries wing; but it will not be a wreck long. Paris is busy building; so busy, they seem almost glad of an opportunity of making their splendid city even yet more magnificent. Then past fine old *Nôtre Dame*, and where the Hotel de Ville was, now it is a wilderness of scaffolding sky high; then on the right the Halles, those huge wine stores of Paris; then the pleasant groves of the Jardin des Plantes; its animals, a travelling companion assures me, were not eaten during the siege; under some pretty bridges, one embossed with a big N, and I am at the landing-place for Ivry-sur-Seine. A hot half-mile takes me up into Ivry proper. Its inhabitants appear either asleep or in slippers, always excepting certain sturdy blouses at work in the nursery gardens. I pass one small Rose garden, where rows of Potatoes alternate with Rose plants, and every Rose that has failed is replaced with a vegetable. Certainly every inch of ground so near Paris is made use of.

With some difficulty I make out in the main street M. Levêque's establishment. Unhappily he is not at home. Under the obliging guidance of Mdlle. and M. Gaston Levêque, of the mature ages of twelve and eight, we traverse his various terraces, but he is not to be found. There is much besides Roses under cultivation. The land appears light, but well supplied with *articles de Paris* in the shape of heaps of rich refuse from the great neighbouring city. An admirable arrangement supplies water in abundance; huge wine vats being sunk at intervals are connected by leaden pipes, into which a deep horse-worked well is constantly emptying. Rows of splendid Tomatoes showed from whence mine host of the Valois in the Palais

Royal might have obtained those irresistible Tomatoes *au gratin*. There are also large beds of Melons and Vegetable Marrows. The way these latter were being grown is a perfect specimen of French ingenuity. Vast quantities of cloches (bell-glasses) out of use have been packed together and thatched over with straw, and now the huge plants are trailing at will over them, having, as it were, a hothouse below instead of above. The light wood and wire fence, so often seen by the side of the pathway, is here constructed chiefly of Briar stocks that have failed and died. They certainly would have been burned in England, but France is the home of economic ingenuity. They were busy budding Roses on low Briars and Manettis, and such Roses as were in bloom seemed equally busy setting Rose haps.

But the new Roses that I went to see. My companion kept assuring me (for a workman had succeeded to my little companions, Garston had quite enough of walking over rough ground in slippers), that when M. Levêque was found I should see all the *nouveautés*. But, alas! he never was found; consequently, Messrs. Editors, "Story indeed, sirs, I have none to tell you," except that the, I hope, more fortunate traveller than myself may vary the return to Paris if he chooses, as I did, by taking the chemin de Fer d'Orleans, which will deposit him close to the Jardin des Plantes.—A. C., *Hotel de Louvre.*

CAMPANULA MEDIUM CALYCANTHEMA.

In the *Journal of Horticulture* for 16th of August is a letter from Mr. J. Pithers respecting the *Campanula Medium calycanthea*. I have tried it for two years both in pots and in the open ground. I flowered this year some plants in my borders, which attained a circumference of a yard full of large white flowers; I have also had some purple, but not so large. Some have flowers consisting of a perfect bell within a bell, while others have the bell corolla issuing out of the calyx, with broad segments of the same colour as the corolla.

I sent some flowers to the Norwich Rose Show, which attracted much attention and were favourably noticed in two local papers.—JAS. C. BARNHAM.

FLORAL DECORATIONS AT THE AGRICULTURAL HALL.

THESE are worthy of notice from their great extent and high character. The prizes of £50, £30, £20, £15, and £10 in one class are somewhat of a sensational nature, but considering the great extent of the groups—70 feet by 5 feet and 11 feet high, also that the plants must remain for a week to be injured, and further that the competitors are not likely to receive a single "order" from the spectators, the prizes are not of such great value as at the first sight they appear to be.

The prizes named were awarded as follows:—First to Mr. Wills, second and third to Mr. B. S. Williams, fourth to Mr. Turner, Slough; and fifth to Mr. Ley. Mr. Wills's collection consists of tall Palms and other ornamental-foliaged plants rather thinly disposed, with groups at their base of Gladioluses, Lilliums, &c., and an irregular fringe of cut flowers of Orchids and other stove plants arranged in a carpet of Lycopods, with Pitcher-plants elevated on stands; ripe Pine Apples in pots and Tomatoes; also an arch of Vines bearing fruit, are employed in this highly artistic group. Mr. Williams's contribution is a valuable one—too valuable considering the risk of injury by gas and the dry atmosphere to which they are subjected, for the Palms, Tree Ferns, and specimen flowering plants are splendid. Mr. Turner's group is composed chiefly of Palms and very fine examples of *Lilium auratum*, and Mr. Ley's of general decorative plants. These groups are arranged in the promenade surrounding the inner circle of the immense hall. In the circle—the auditorium—are semicircular groups about 20 feet in diameter. These are on grass banks. Mr. Wills secured the first and second prizes in this section with beautiful collections of plants and several excellent dishes of fruit, Mr. Turner being placed third and Mr. Williams fourth. Mr. Turner's Dahlias had a fine effect by gas light, and had they been arranged in a wide bank of moss instead of in exhibition boxes the groups containing them would have won a higher position. Mr. Williams's group is very artistic. It represents a lawn and carpet bedding, the trees on the lawn being specimens of *Cocos Weddelliana*. In the next class, the spaces being 12 feet by 2½ feet, Mr. Williams secures the first three prizes, and Mr. Wills the fourth. Messrs. Dick Radclyffe

and Co. secure the chief prizes for fountains, garden seats, tools, and appliances; but these "general" classes are comparative failures—a farce, perhaps, is the proper word. The plant decorations are excellent, and, notwithstanding the seemingly high prizes, this system of embellishing a large hall is probably less costly than by employing floral decorations in the orthodox manner.

The association of music and flowers is appropriate; both are attractive, and both are provided liberally at the Agricultural Hall, continuing throughout the week. Mr. F. W. Wilson, late of the Crystal Palace, proves as efficient as ever as floral manager.

BOOKS.

The Colorado Potato Beetle. Illustrated and Described by Dr. ANDREW WILSON, &c. W. & A. K. Johnston, Edinburgh and London.

We recommend this work to our readers. It will enable them to identify the marauder should it attack their Potato plants, and it notes the remedies that have been suggested. The coloured portraits of the insect and its larva are very good. We can afford space for only one extract. "The chemical remedy most in vogue is Paris green, a powder consisting of Scheele's or Paris green (the arsenite of copper) added to plaster of Paris, to ashes, or to flour; one part of the former being added to twelve or fifteen parts of the latter substances. With this powder the infested Potatoes are dusted, this treatment appearing to have no injurious effect on the plants, although it has been remarked that the subsequent year's crop is usually of inferior quality and exists in diminished quantity. It is hardly necessary to remark that Paris green is a highly poisonous substance, and that great care must be taken in its application. A convenient method of application of this substance is that by means of an extemporised duster or dredge, such as may be made by punching a number of small holes in the bottom of any old tin vessel. This apparatus may be tied to a stick, and can be employed with great facility in the distribution of the powder."

Various Experiments for the Production of New and Desirable Grapes, and a Description of Forty Varieties obtained by Hybridisation. By G. HASKELL, Ipswich, Mass.

Two years since we noticed some of the seedling Grapes sent to us by Mr. Haskell, and commended especially two which had the Black Hamburg and White Chasselas for their male parents. Mr. Haskell has continued his experiments, and the pamphlet, of which we have stated the title, records the results. We will copy one paragraph because it relates to a subject now especially demanding attention.

Recent experiments in France have shown that the most effectual eradication of the Phylloxera was by flooding the ground and thus drowning the insects. As the Riparia of this country flourishes, and really does best in wet bogs and meadows, even when the roots are immersed in water all winter and the soil is saturated all summer, may we not expect that this trait will prevail in some of these hybrids and make them almost proof against the Phylloxera, especially if planted in such wet soils? I shall place them in such soils and localities, and hope others will do so too, that the experiment may be fairly tried.

NOTES ON VILLA AND SUBURBAN GARDENING.

COLEUS VERSCHAFFELTI and V. splendens are among the very best of foliage plants for richness of colour and effectiveness in the flower garden. They are extensively used in working out the various designs for scrolls, panels, or other pattern bedding, in which cases they are generally planted closely so as to shelter each other, and the tops are kept pinched to the uniform height and shape of the pattern. When massed in larger beds and edged with Centaurea ragusina few beds are more beautiful. Cuttings of Coleuses strike very freely, and no plants are more easy to grow; they require a position near the glass, a tolerably rich soil, plenty of water when growing, and a temperature during the winter of not less than 45°. Let no one try to grow these plants who cannot maintain this temperature. If only just a few plants can be thus wintered the quantity required can be raised with the greatest rapidity in the spring with the help of a dung frame, for every little side shoot or top will soon make a bushy plant.

The very pretty and dwarf-growing Alternantheras are also extensively used in modern bedding, and require much the same treatment as Coleuses. Cuttings inserted thickly, or old plants taken from the ground and potted, if kept in the same temperature as recommended for the Coleus, will furnish abundance

of cuttings for increase in the spring. A. amœna, amabilis, magnifica, and paronychioides are the best. Iresine Lindenii as a dark bedding plant is also very useful, and will flourish under the same treatment as the Coleus; it is a decided improvement on I. Herbstii, being brighter in colour and of much better habit.

The several varieties of bedding Lobelias are exquisitely beautiful, and are well adapted for small beds or for edgings around larger beds. Their dwarf growth and continuous-blooming properties are not to be equalled by any other bedding plants we possess. Lobelias are easily raised from seed sown thinly at the present time, the seedlings being wintered in a greenhouse; or seed may be sown in heat early in the spring. But though the majority of the seedlings come true they are not entirely to be depended on, and therefore a stock of any particular variety, to keep it select and true, must be perpetuated by cuttings. If stock plants are kept on a shelf in a greenhouse throughout the winter many of them will become dense masses, and young rootlets will start from the base of each shoot: these shoots will strike very freely. The varieties of the L. pumila section are now mostly used, and a double variety exists which in some places and seasons answers well, but in others we have seen it a complete failure.

Ageratum Imperial Dwarf and one or two other varieties are very useful. Their immense bunches of lively lavender flowers together with their dwarf habit render them valuable as bedding plants. They can be either increased by seed or cuttings. A few old plants cut down and potted in the autumn and wintered in a greenhouse afford an excellent supply of cuttings in the spring. Heliotropes are not now as much used for bedding purposes as formerly, but we recently saw two beds of Miss Nightingale at Kew very even and beautiful, and the perfume from them was delightful. Heliotropes are easily propagated by cuttings and can be wintered in a warm greenhouse.

Of all plants used for their golden foliage the Golden Feather (Pyrethrum) is perhaps the most popular. It is readily raised from seed. Seedlings raised annually have not that tendency to bloom as have cuttings or older plants. Sow in March, and prick out the seedlings when large enough to handle; or a little seed may be sown now in the open ground. As a companion plant to the Golden Feather is the Golden Chickweed (Stellaria graminea aurea); it is very neat and effective and is quite hardy. For covering the ground closely and for producing a creamy yellowish mass Mesembryanthemum cordifolium variegatum is very well adapted. A few pots of cuttings inserted at once will furnish a sufficient supply in the spring.

The Centaurea makes a noble edging plant, but is not so easy to strike as some of the plants above named; but cuttings taken off now will strike freely enough if ordinary care be taken to prevent damping. Keeping them in small pots and somewhat dry during the winter, with plenty of air, is the best means of preserving a stock of this pleasing white-foliage plant.

Succulents are now extensively used for bedding purposes, especially Echeverias, Sempervivums, and Sedums. They are increased by offsets. Frost does not injure these so much as damp around the collar. If placed in a dry shed, or along the side of a wall where wet is kept away by coverings, plants may be preserved through the winter.

Leucophyton Brownii is a very neat and one of the most beautiful of dwarf foliage plants ever introduced. Cuttings of it strike best in a cold frame, where also the plants may be wintered. Its bright silvery appearance is most peculiar but attractive. Gazania splendens is not now often seen, but a good bed on a bright day has a very pleasing effect when the sun shines. Cuttings strike freely, and may be wintered in covered frames.

The dying-off of Calceolarias soon after being planted out has caused them to be less popular than formerly, but we possess nothing so gay when the plants are well grown. To increase a stock of these valuable bedding plants cuttings should be inserted in tolerably sandy soil in a cold frame early in October, allowing them to remain there throughout the winter, keeping out frost by covering the glass with mats, straw, or any other material, giving air on favourable occasions to prevent damp. Though the bedding Calceolaria is not aquatic it is very impatient of drought, and therefore requires deeply trenched and well-manured beds to grow it well.—J. W. MOORMAN.

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

KITCHEN GARDEN.

We have not done much in this department except to clear-off any crops that had ceased to be useful, making the ground tidy by clearing away the weeds. Sometimes it is convenient to dig in the vegetable refuse, and that is often as good as a dressing of manure. We had a good illustration of this in the spring of the present year. About four acres of ground had to be planted with Potatoes, and two acres of that were sown with Rye in the autumn, and about planting-time the Rye which

was about 9 inches high was ploughed-in, the Potatoes being planted at the same time without any other preparation or any further manuring. The other two acres had a good dressing of farmyard manure and guano, but the part on which the Rye was ploughed-in had the best plants and the greatest crop. We have taken up all the Potatoes, but be it understood none of them are late sorts. Early Ashleaf, Veitch's Prolific, Improved Ashleaf, Schoolmaster, Blanchard, and a local sort named Early Shaw. Disease had attacked most of them, Blanchard most severely. It would certainly have been better if we had dug the crop before the disease had attacked the haulm. When this is done it is necessary to handle the tubers very carefully. We have found that, although the skins are easily injured at the time of taking-up, in less than a week after they set firm and do not suffer from being moved. All the Potatoes which are required for sets next year have been stored in a dark loft. They are spread-out thinly.

After a spell of hot dry weather the ground was dusty dry and hot to the feet. On Wednesday morning for two hours the rain fell steadily and heavily; rather over an inch was taken from the rain-receiver afterwards. The ground was in good order for planting, and Sprouting Broccoli, also Coleworts, were put out in quantities.

VINERIES.

We have pruned the Vines in the earliest house, and will as soon as an opportunity offers make preparations for starting them. One of the houses shows signs of the Vines being exhausted, and we are not surprised at this, as our light gravelly soil is not naturally adapted for Vine culture. We would like to clear all the soil away from the roots of the Vines to within a few feet of the stem, and renew the border in the same way that it was made at the beginning. Our plan would be this: We would begin at that part of the border furthest from the stem of the Vines, and would cut a trench as deep as the drainage; from this trench we would work up to the Vines, removing all the soil but saving the roots. After clearing out the soil to within 3 or 4 feet of the Vines we would see that the drainage was perfect, and would then fill-up the border with fresh compost, raising the roots much nearer to the surface than they were before. The time for doing this is a matter of considerable importance. It would be best to do it immediately the fruit was gathered—that is, if the Vines were in good condition; but if most of the leaves had perished from the attacks of red spider or any other cause, it would not be safe to do it, especially if the compost was formed of turf not quite decayed: the organic matter would heat and start the Vines into growth. Ours will probably be done at the time of starting the Vines, when the gentle heat generated by the decaying turf will probably cause the Vines to start strongly.

Late houses require a little attention in order to perfect the ripening of the Grapes. Should the temperature fall below 65° in the Hamburgh house, or 70° in the Muscat house, it must be kept up to those figures by the heating apparatus—that is, if the Grapes are not ripe; if they are ripe all the attention that will be required is to keep the temperature and state of the atmosphere so that no decay attacks the berries. A high artificial temperature would cause the berries to shrivel, and a low night temperature has a tendency to induce decay. Moisture will not need to be applied artificially. Care must also be taken in sweeping the paths not to raise dust in the atmosphere, which settles on the berries.

Vines in pots intended to be forced to produce early crops of Grapes should now be enjoying a period of rest, either against a wall or in a house with a dry atmosphere and where plenty of air is admitted. It is not desirable to give much water at the roots, but the Vines suffer more from too little than they do from an occasional overdose. It is well to cut the canes back to the length they are intended to be for forcing, as the eyes that remain on the cane will continue swelling while the leaves are in a healthy condition. All the pruning that is required should be done as early as possible, as bleeding generally results from late pruning. If it is intended to start the Vines in October all growth ought to be completed now.

Strawberries in Pots.—We have now completed the potting of these. All intended to fruit late have been potted in 6-inch pots; early sorts, like Black Prince and Keens' Seedling, in pots a size smaller. They are just under 5 inches in diameter inside measure. The plants root freely and make rapid growth after potting, and the object of the cultivator is to take advantage of this in order to have the crowns large and well developed before the dull days of autumn. The plants are placed in a favourable position where they receive most of the sun's rays, and the pots must on no account lack an abundant supply of water. An attack of red spider will utterly ruin the prospects of a good crop. On the first appearance of this pest lay the plants on their sides, and thoroughly syringe the under sides of the leaves with soapy water to which a little tobacco liquor has been added. Runners are also produced very freely on the plants, but these must be removed as fast as they are formed, as they must to a certain extent weaken the crowns.

PLANT STOVE AND ORCHID HOUSES.

We have had a season of respite from potting or other important operations in this department, and have taken the opportunity to look over all plants that are likely to have any of that terrible pest the mealy bug. We have again and again had it down so that it has been almost annihilated, but we have not yet destroyed the scourge entirely. It is now a good time to thoroughly re-arrange the plants, and any unwieldy specimens which are not required for decorative purposes next year should be destroyed, and only the best specimens be allowed to remain. What can be more unsightly than to see plants of a scandent character growing into one another and forming a tangled mass, which becomes a breeding ground for insect pests? See that all plants are neatly but not formally trained, and if possible they ought not to touch each other. Large specimens must stand back from the front of the stage or bark bed, and some neat, healthy, small plants ought to be placed on the outer edge sufficiently large to hide the pots. They ought not to be plants that are intended to make good specimens, as growing them under those of a large size will probably injure them. It depends very much upon the manner in which plants are arranged as to whether they will make handsome specimens or the reverse. Very careful attention is requisite in order to ascertain the requirements of the various subjects in each house. We have found a specimen would do well in one position, which on being moved to another part of the house did not succeed. The reason of this is not far to seek: some plants require to be near the glass and fully exposed to the sun and with free air around them, others require to be grown and flowered in the shade.

Orchids do not require a large amount of attention at this season, but all that they do require must be freely rendered at the right time. Dendrobiums which have been well supplied with water at the roots and often overhead must, now that their growth is completed, be treated to a drier atmosphere, and water must only be applied when the plants really require it—that is, when the compost is rather dry. As the season advances water must be almost entirely withheld in the case of most of the deciduous species. Cattleyas must not have much water at the roots after this. Allow the compost to be dry before applying any. *Lælia purpurata* is now starting into growth, but the plants do not seem to make much root at the same time; and water, even when the growths are in the course of formation, must be applied with caution. *Calanthes* have also completed their growth, and the spikes in some instances are coming up. We grow our plants in small pots for the size of the bulbs. Three large bulbs in a 5 or 6-inch pot will give us from four to six spikes 2 and 3 feet in length. We have not yet reduced the atmospheric moisture, but now that there are heavy dews at night, and the rains have at last touched our district, we must act with caution in this respect.—J. DOUGLAS.

TRADE CATALOGUES RECEIVED.

James Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea.—*Catalogues of Fruit Trees and Strawberries, and of Dutch Bulbs.*

Sutton & Sons, Reading.—*Autumn Catalogue of Flowering Bulbs.*

Franco and Arthur Dickson & Sons, 106, Eastgate Street, Chester.—*Catalogue of Dutch Bulbs and other Flower Roots.*

Thomas Bunyard & Sons, Maidstone.—*Catalogue of Dutch Bulbs, and Descriptive List of Roses.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

VEGETABLE MARROWS (*Major M.*)—They appear to have been quite overlooked. If you can send other examples they shall have our attention.

RAISING *KALOSANTHES* FROM SEED (*T. J. H.*)—The seed pods should be cut when ripe, and may be kept after they are dried in a cool dry place until spring, the seed remaining in the pod until that time. Drain a pot or pan half its depth, placing over the drainage some of the rough of the compost, which should consist of equal parts of sandy fibrous loam and sandy peat with about a fourth of silver sand, well incorporated and passed through a quarter-inch sieve. Let the soil in the pots be rather firm, and the surface quite smooth. Water gently and scatter the seeds evenly over the surface, the pods being broken over the pot. Scatter a little fine soil over the seed and place in a hotbed, keeping the surface regularly moist, but avoid making the soil sodden. In the young state the seedlings require to be very carefully watered,

for an excess will cause them to damp. The seedlings should be kept near the glass and have air moderately. When large enough to handle they should be gently lifted with a knife or pointed piece of wood, and potted-off singly in small pots, returning them to the frame, shading for a few days until established, after which they may be hardened-off and placed in a cold frame, placing the pot on ashes. In August they may have 4½-inch pots, and in September be removed to a light airy position in a greenhouse, keeping rather dry over the winter. The strongest plants will flower the following year. There is no advantage in raising the plants from seed, and superior varieties can only be obtained when the best of the present varieties have been crossed—artificially fertilised.

EXHIBITING (T. Richardson).—Exhibit any eight that are best of their kind.

CALCEOLARIAS AND PRIMULAS (W. B.).—Calceolaria seed may be sown now in light sandy soil pressed rather firmly in pots or pans. The soil should be watered an hour previously to sowing the seed, which should be scattered thinly on the surface and be slightly pressed. Cover each pot with a square of glass, and place in a cool, moist, dark frame. The moment the seed germinates light must be gradually admitted. The seed pans and frame should be so managed that no water will be needed until the seedlings appear, the soil being kept moist by placing the pots in saucers of water. It is fully late to sow Primulas now, and you will do more wisely by purchasing a dozen or two of small plants ready for being potted.

INSECT ON GLADIOLI (S. E. W.).—It is the *Julus terrestris*, one of the snake millipedes. We do not think they cause the decay, but subsist on the decayed parts.

TAKING UP POTATOES (Idem).—The tubers have done increasing in size when the stems begin to be yellow.

VINE BORDER (A. Young Gardner).—Full directions are in our "Vine Manual," price 2s. 8d., free by post.

PEA.—We have mislaid the inquirer's name. The Pea is the Mummy Pea, and known also as the Crown, Bunch, and Cluster Pea.

TRAINING PEACHES IN WALL CASE (R. H. A.).—It will be much better to train the trees to a trellis fixed about 10 inches from the glass. We would, of course, allow the trees to remain against the wall, but would plant others about a foot from the front wall, or rather where you have placed the line of oak posts.

SOWING POLYANTHUS AND PHLOX DRUMMONDII SEEDS (J. C.).—If you have Polyanthus seeds sow at once, but it is almost too late to expect flowers next season. They flower abundantly and strongly from seeds sown in May. Sow the Phlox in March and place the pots in a hotbed, the plants will flower during summer. We once had some fine plants of this Phlox which flowered in the greenhouse during May and June, and were much admired. The seeds were sown at the end of August, and the plants were wintered on a shelf in a light and cool house.

WEEDS ON GRAVEL (T. P. L.).—No available application will prevent the weeds growing. Asphalting the surface would prevent their appearing.

SLUGS IN HEAVY SOIL (E. R.).—Your most effective remedy will be to pare and burn the top spit of your soil. It will annihilate the slugs and improve the staple.

BOILER (E. M.).—We presume the apparent neglect arises from the great demand. Write again to the makers.

NAMES OF FRUITS (W., Luton).—Please to send them later, it is too early in the season to name late Apples.

NAMES OF PLANTS.—Specimens are sent that cannot be recognised, they are so dried-up. They ought to be sent in a box with a little damp moss about them. (*Arthenice*).—1, *Spiraea Umaria*; 2, *Lythrum Salicaria*; 3, *Epilobium hirsutum*. (*Young Gardner*).—1, *Centranthus ruber*; 2, *Chrysanthemum segetum*; 3, *Pyrethrum frutescens* (?); 4, *Alyssum maritimum* variegatum. (*Winchester*).—*Abutilon Thompsoni* variegatum. (*C. Friaby*).—Winter Cress (*Barbarea vulgaris* or *B. praecox*). (*W. L.*).—1, *Pulicaria dysenterica*; 2, *Senecio cruciifolius*; 3, *Centaurea nigra*; 4, *Agrimonia eupatoria*. (*G. Wall*).—1, *Spergula nodosa*; 2, *Heclosciadium nodiflorum* var. *repens*; 3, *Sceleranthus annuus*. (*W. M. E.*)—*Papyrus antiquorum*. See also reply to "W., Luton."

POULTRY, BEE, AND PIGEON CHRONICLE.

LOCAL REPORTS ON POULTRY.

We are afraid these are more amusing than edifying. All are aware of the utter helplessness generally of a reporter for a local newspaper when he is turned into a poultry show and told to make a report. He knows a fowl and a Duck by sight, and is probably acquainted with a Christmas Turkey or a Pigeon pie, and this is often the consummation of his poultry knowledge. What does he do? One of two things: he either scrapes into conversation with some gossiping poultryman and writes down in shorthand from his lips, or else he gleans a few stray names and ideas here and there, and concocts a hash for the country residents. In the former case the tips he is given generally are in favour of some particular person's exhibits, or the worthlessness of some opponent's. In the latter case the result may be something of the nature which we will proceed to describe.

"What are Mangle-crested Piles? I should be so much obliged if you will let me hear where I can see some." This we had from an exhibitor on a postcard. We had no idea what "Mangle-crested Piles" were, and wrote for further particulars. On the arrival of a second note we were told that a pair of this breed won the cup and first prize in Class 21 at Hereford, and a local newspaper was then quoted as the authority. We afterwards saw a copy of this interesting organ, and really the report was so delicious in the positive hopelessness of its poultry knowledge that we must quote from it to exemplify our case.

We are told in the first place that the first-prize Dorking hen was most beautifully marked, and that "the pluff was exceedingly fine." Even supposing that "pluff" was a misprint for "fluff," we do not often hear of a Dorking's fluff! In mentioning Lady Dartmouth's first and second-prize Light Brahma cocks they are termed "elevated companions." The first-prize Golden-pencilled Hamburgs had legs which "appeared as if cut out of a piece of stone," they were so magnificent. We cannot possibly remember a worse simile, for Hamburgs are hardly ever still, and their legs are very slender at all times. In Class 19 the first prize went "to a pair of Black Piles." This is charming, but our readers must not imagine that "Piles" is a misprint for "Poles," as Class 19 was the French class. In Class 21 "the cup and first-prize were awarded to a pair of Mangle-crested Piles," "and the second to a pair of White-crested Piles." The third prize in the sale class we also read went to "White-crested Piles." In Class 23 all the winners were Dark, or else the reporter's brain must have been dark, for "Dark Brahmas, Dark Cochins, and Dark Brahmas" were the three victorious pens. Lady Dartmouth's celebrated Sebrights, which won second and third prizes in the Variety Bantam class, are termed "Silver-spangles." And so we could go on; but we have given enough to show the perfect rubbish of the notes in question, though we are told in a private sort of way that they were "written by an old fancier," at least we have those words written in pencil at the top of the report in question.

There are many fanciers in a quiet way. A tradesman who keeps his Brahmas or Cochins, a farmer who keeps his Hamburgs or Dorkings, the squire of the parish or chief landowner who keeps at his home farm some particular breed or other, such as these do not call themselves "fanciers," merely lovers of poultry. They enjoy their birds as a recreation, and take in no weekly poultry periodical, or try to keep themselves *au fait* in the onward progress of poultry matters. They look forward to their county or city show, and perhaps then exhibit a pen or two, when they will read afterwards with relish the half column which the local daily or weekly paper gives concerning the exhibition. They must be edified; still to them a report such as the one from which we have taken extracts reads no doubt perfectly right, and perhaps the one envies a neighbour's "Mangle-crested Piles," while the other would like to see his own Dorkings more heavily "pluffed." These little things, however, are thorns in poultry cultivation, for after having composed such a report as we speak of the writer will perhaps imagine he is "gifted," and the result will be an article on "egg-selling" or "egg-buying," or "preparing for a show" or "fattening fowls," in which he is able to work a real evil; and we have before now seen such articles in leading county newspapers which we know positively have not only done much harm, but have actually led to the discontinuance of poultry-keeping from the imaginary roguery which an ignorant writer would attempt to disclose.

If a local newspaper requires notes on any particular section of a show he should surely go to the proper source to obtain them, and we hope those proprietors or editors who may see these lines will take the subject to heart, and either content themselves with a few words on general points, or omit the subject altogether rather than allow themselves to be laughed at, and pure nonsense written about a most healthy and profitable pastime.—W.

ROCHDALE POULTRY SHOW.

This grand Exhibition of stock, poultry, &c., was held in the grounds of Clement Royds, Esq., on the 22nd inst., when the day proved the most disastrous of any in our experience of twenty-five years, the rain falling in torrents from noon until night, making the turf one perfect bog and drenching all the exhibits to such an extent that we consider correct judgment or criticism was utterly impossible. The Show was one of the best the Society has ever held, if not the very best, which speaks volumes for the management.

Poultry were for young birds with the exception of some classes of Ducks, Geese, and Turkeys, and the selling classes; and some excellent chickens were shown, although with all the talk of large numbers reared this season there seems to be a dearth of really good specimens in some classes. Game were of fairly good quality, although we have seen them better here; the *Cochins* and *Spanish* being about the best of the large section. *Polish* proved very good in entries and the quality very fine, the winners being most compact in crest and straight in back, a point sadly overlooked in this variety. *Hamburgs*, as may be expected, were a capital lot, this Show more than any other proving a kind of feeler as to the position of young stock, and among them were some of the best birds we have ever seen. *Ducks* and *Geese* were very good and well shown.

The show of *Pigeons* was very large and good, but on account of the weather we prefer not to criticise the awards.

POULTRY.—SPANISH.—*Cockerel*.—1, J. T. Parker. 2, J. Walker. *vhc*, J. Aldridge, J. Roberts. *Pullet*.—1 and 2, J. Powell. **COCHINS.**—*Ginamon* and *Buff*.—*Cockerel*.—1, H. Tomlinson. 2, G. Sidgwick. *vhc*, T. Lees, C. Sidgwick.

and S. W. Marshall, *chc*, S. Lyson, E. Gould, C. Thompson, 2 J. S. Robinson, 2 D. Oldfield, *extra*, 3. Howarth & Whittingham, *whc*, T. & E. J. Fell, *Broken-coloured*, J. T. Moss, 2 D. F. E. J. Fell, SILVER-GRAY.—1 and 2 T. & E. J. Fell, 3 J. S. Swinbenham, *whc*, T. & E. J. Fell; D. Oldfield, F. Foster, D. Oldfield, J. Robertshaw, *whc*, 2 D. Oldfield, 3 J. Foster, 2 J. S. Robinson, 2 D. Oldfield, J. Robertshaw, ANGOA.—1, D. Oldfield, 2 J. S. Robinson, 3 E. Robinson, *whc*, J. W. Baron, T. & E. J. Fell; D. Oldfield, 2 J. S. Robinson, 2 T. & E. J. Fell, 3 A. Atkinson, *whc*, T. & E. J. Fell, T. Moss.

IN consequence of the various little notes from Stoke Park we knew fairly well before the list came to hand what to expect. We imagined Mr. Wragg would be on the spot and send forth a schedule which would be worthy of his fame. The list of prizes and the array of cups are most tempting. We only regret that Weymouth and Aylesbury should clash with this Show. It will be the first grand chicken Show of the season, and to that all must look forward for a comparison of their particular birds. It would take too much space to particularise the classes, and we can only recommend exhibitors who have not already been supplied immediately to apply for a copy of the schedule, as nearly every existing fancier, whatever his breed may be, can here find scope to exhibit with a moderate entrance fee; but as the entries close on the 5th of September there cannot be much time to lose. The list of patrons is large, and we find among them fanciers in all grades of society, thus testifying to their confidence in Lady Gwydyr's manager as the Secretary. Of the rules, which are carefully drawn up, we would draw all fanciers' particular attention to Nos. 4, 8, and 10. Of the plate

The doe make rather awkward mothers sometimes, and do not always bestow quite so much attention on their young as the smaller varieties do. The young should hence be zealously guarded the first few days, and as the doe is very easily angered very endeavour should be made to ensure quietness.—GETA.

FEED YOUR BEES.

ALL the bees in this neighbourhood are on the border land of starvation. I rode last Friday to the moor where mine are, and found several white drones put out of my large hives. I then went and examined the other hives in the vicinity of mine, and found the ground covered with young drones and workers. I called on the owners and warned them to feed at once, which several did. We have scarcely ever seen the sun for two months, and it has rained for four days incessantly, and while I write it looks as black as ever. All my hopes of honey for this season are gone, and I shall be glad if I can keep my stocks alive. Everyone should look to his hives on the moors and at home, and if he finds young brood cast out no time should be lost in supplying syrup, or they will have what I dread—that is, hunger swarms.—**HARDY OF THE HILLS, Northumberland.**

ITALIAN VERSUS BRITISH BEES.

I CONTEND that the Italian or Ligurian bee has not been proved to be better than our native bee—that is, better for honey-gathering, and the making of honey must be held to be the grand object of bee-keeping.

Ever since the discussion I had with my respected friend of Tillinamolt, New Pittsigo, in 1873, on this subject, I have paid special attention to the gathering of facts and theories from all sources, including the *Journal of Horticulture*, the *British Bee Journal*, and the *American Bee Journal*, with a view of adopting and keeping the best breed. Well, without any known bias to one species more than to the other, I have no hesitation in saying that the preponderating testimony in favour of the new kind appears to my mind to come from those who have them to sell.

Some parties buy a swarm of Italians, or a queen, and the first year they may or do excel our natives. To this I answer that the new queen is invariably introduced to the best hive in the garden, and if it be a swarm it gets extra attention.

Another person buys the new kind, and may have had them a dozen years, and when he had the old kind he never had such harvests of honey as now. To this I answer that apian knowledge is increasing, and that party must be considered to be much more advanced as a bee-keeper than he was ten or twenty years ago.

Various parties, forty or fifty miles distant, and at intervening distances, have applied to me for swarms of Italian bees. I have had to recommend these applicants to those who kept them. To those, therefore, who want the strange bee in order to sell at a big price, I say Get them, for therein appears to me the chief advantage. To those who want the new kind for their novelty, I say Get them; to those who want them for variety, get them, or for their beauty, get them, or who are careless for profit, get them, or whose hobby is bees, get them; but that they breed earlier, swarm oftener, fly farther, or fly faster, or work earlier or work later, or in colder or hotter weather, or are more docile, or gather more honey, or better honey, or live longer, or, in fine, are in every way more profitable, I do not at present believe.

My convictions are thus that the Italian bee is not superior to the British bee. To be candid, however, I have not learned any particular inferiority that they have, unless that many of those who keep them seem to have a deal ado with foul brood, the very rinderpest of bees. My contention is, that no person need be induced to pay a large price for Italians under the belief that they will gather more honey than our native bee.—**JAMES SHEARER, Cairnie (in Banffshire Journal).**

IPSWICH SHOW.—The Committee of this Show have decided to offer an additional class (82a), for "Any variety of Long-faced or Flying Tumbler," on my guaranteeing the first prize, and that Class 82 should now read, "For any other variety of Short-faced Tumbler." Entries close September 5th. Mr. C. H. Croydon, Ipswich, has kindly presented a special prize, value £3 3s., for the winner of most points in the Pigeon classes.—**H. W. B. BRUNO, Harwich.**

OUR LETTER BOX.

PRESERVING EGGS (R. I. S.).—Put them in some slacked lime just stiff enough to keep them in the position in which they are placed, then pour slacked lime over them till they are covered. Leave it till it is hard. Go on till the vessel (a bread or other pan) is quite full. The eggs should be put small end downwards.

CHICKENS CRAMPED (J. Ll.).—Give them bread soaked in ale once daily, and do not let them out until nearly mid-day.

LINNET FEEDING (Lady Sybella).—Millet seed is too fattening. Canary seed is far better. Give occasionally chickweed, shepherd's purse, and plantain seed.

RABBIT-KEEPING (A Young Rabbit-keeper).—Give the bran dry, and lettuce leaves. Buy our "Rabbit Book;" you can have it free by post if you enclose eight postage stamps with your direction.

BOARDS SUBMERGED (Salop).—A glue that will resist the action of water is made by boiling 1 lb. of common glue in two quarts of skimmed milk.

BUCKWHEAT (S. W. T. K.).—The time for sowing is May, and it is usually fit for mowing and thrashing in October.

BEES UNDER A FLOOR (E. R., York).—It will require the skill and courage of a bee-keeper of experience to remove the two swarms that entered by the air grids and settled between the joists of your chamber floors. If the boards are taken up, be prepared to apply large doses of smoke from fusian rags wherewith to frighten and master the bees. Let the swarms be deluged with smoke, then cut all the combs from the boards and place the brood combs on boards or pieces of calico with hives over them. The bees will soon find the brood combs and settle amongst them, when they could be removed to the garden. All the air grids should be closed for a month to prevent the bees from returning to the house again. A few days after the bees have been placed in the garden the swarms should be united in an empty hive, and fed into a good stock.

DRIVING BEES (Novice).—The advice already given to you is all that is needed. No biter can be given. The one hive driven has been found worthless; the other may not be so, and should be driven as per advice.—**A. P.**

UNITING BEES (W. B.).—In uniting the swarms it would be better to kill the older queen, but if both swarms with their queens be cast together the bees will destroy one of the queens. You are quite right in fearing that the bees, now 200 yards from your garden, would return in considerable numbers if they were removed at the present time. Could you not find some place about a mile further off, where they could be fed every night for a fortnight? After a month's absence from their present locality they could be safely placed in your garden, or they could be fed into a stock in the cottager's garden and remain there till January next.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.					
	Barome-ter at 32° and Sea Level.	Hygrome-ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem-perature.		Radiation Temperature.		Rain.
		Dry.	Wet.			Max.	Min.	In sun.	On grass.	
1877.	Inches.	deg.	deg.	deg.	deg.	deg.	deg.	deg.	deg.	In.
Aug.										
We. 22	29.592	66.7	61.3	S.W.	65.0	72.3	58.0	124.3	55.9	0.010
Th. 23	30.0 4	58.6	52.6	N.W.	62.9	68.7	47.6	119.4	45.6	—
Fri. 24	30.194	57.5	50.3	N.W.	61.3	68.8	42.4	99.8	39.3	0.020
Sat. 25	29.874	59.5	56.7	S.E.	61.3	68.3	54.2	97.3	52.6	0.547
Sun. 26	29.610	64.6	60.3	W.	61.1	68.3	57.0	108.5	56.8	0.375
Mo. 27	29.879	65.4	63.3	S.W.	61.5	68.4	57.2	8.4	56.2	0.085
Tu. 28	29.747	61.1	59.0	S.W.	61.7	72.6	60.3	118.0	59.8	0.020
Means	29.843	61.9	57.7		62.1	68.6	58.8	106.8	52.2	0.307

REMARKS.

22nd.—Rain in night and early morning; fine at 9 A.M., some showers, but on the whole a pleasant day, the air so fresh and cool; a most splendid moonlit night.
23rd.—A fine fresh morning, very bright day though much cooler; scarce any cloud at night, so the eclipse seen very well from first to last.
24th.—Fine bright day, but not quite so fresh-feeling as yesterday; slightly hazy at night.
25th.—Rain more or less all day and night; rain at times, heavy thunder storm about 2 p.m., and another in the evening, the lightning very vivid.
26th.—Calm grey and warm morning, fair but dull all day; rain after 10 p.m.
27th.—Regular wet night, morning, and forenoon; fair but dull afternoon and evening.
28th.—Wind and rain in the night, rain till nearly noon; after that time bright and fine.

A great fall of rain during the week and absence of sun has lowered the temperature considerably, making rather more than 7° below that of last week, and in the max. in sun 17°.—**G. J. SIMONS.**

COVENT GARDEN MARKET.—AUGUST 29.

THE only home produce now arriving of any consequence is Apples and Nuts, for which there is a fair demand, otherwise the market remains very dull.

FRUIT.

		s.	d.	s.	d.			s.	d.	s.	d.
Apples.....	½ sieve	2	6 to 8	6		Melons.....	each	3	0 to 8	0	0
Apricots.....	dozen	2	6	4	0	Nectarines.....	dozen	4	0	13	0
Chestnuts.....	bushel	0	0	0	0	Oranges.....	½ 100	10	0	15	0
Currants.....	½ sieve	0	0	8	6	Peaches.....	dozen	3	0	20	0
Black.....	½ sieve	6	6	7	0	Pears, kitchen.....	dozen	0	0	0	0
Pigs.....	dozen	2	0	0	0	dessert.....	dozen	1	0	8	0
Filberts.....	lb.	0	0	0	0	Pine Apples....	lb.	5	0	8	0
Cobs.....	lb.	0	4	0	6	Plums.....	½ sieve	0	0	0	0
Gooseberries.....	½ bushel	8	6	4	6	Raspberries....	lb.	0	0	0	0
Grape, hothouse.....	lb.	1	6	6	0	Walnuts.....	bushel	5	0	8	0
Lemons.....	£ 100	6	0	10	0	ditto.....	£ 100	0	0	0	0

VEGETABLES.

		s.	d.	s.	d.		s.	d.	s.	d.			
Artichokes.....	dozen	8	0	to	6	Mushrooms ...	pottle	1	6	to	2	0	4
Asparagus.....	£ 100	0	0	0	0	Mustard & Cress	punnet	0	2	0	0	4	
Beans, Kidney.....	bushel	4	0	5	0	Onions	bushel	0	0	0	0	0	
Beet Red	dozen	1	6	8	0	pickling.....	quart	0	4	0	0	0	
Broccoli.....	bundle	0	9	1	6	Parley.... doz.	bunches	2	0	0	0	0	
Brussels Sprouts.....	½ sieve	0	0	0	0	Parsnips.....	quart	0	6	1	0	0	
Cabbage.....	dozen	1	0	2	0	Potatoes.....	quart	0	6	1	0	0	
Carrots.....	bunch	0	6	0	9	Potatoes.....	bushel	5	0	0	0	0	
Capsicums.....	£ 100	1	6	2	0	Kidney.....	bushel	5	0	7	0	0	
Cauliflowers.....	dozen	2	0	4	0	Radishes, doz.	bunches	1	0	1	6	0	
Celery.....	bundle	1	6	2	0	Rhubarb.....	bundle	0	6	1	0	0	
Coleworts doz.	bunches	2	0	4	0	Salsafy	bundle	0	9	1	0	0	
Cucumbers.....	each	0	3	0	9	Scorzenera	bundle	1	0	0	0	0	
Endive.....	dozen	1	0	2	0	Seakale.....	basket	0	0	0	0	0	
Fennel.....	bunch	0	3	0	0	Shallots.....	lb.	0	8	0	6	0	
Garlic.....	lb.	0	6	0	0	Spinach.....	bushel	2	6	4	0	0	
Herbs.....	bunch	0	2	0	0	Turnips.....	bunch	0	5	0	8	0	
Lettuce.....	dozen	1	0	2	0	Veg. Marrows..	each	0	2	0	4	0	
Leeks.....	bunch	0	4	0	0								

WEEKLY CALENDAR.

Day of Month	Day of Week	SEPTEMBER 6—12, 1877.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.	
			Day.	Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.	Days.	m.	s.	
6	Th	Carlisle International Show opens.	70.2	46.8	58.5	5	22	6	34	3	33	6	6	28	1	51	249
7	F	Wellington Show.	70.3	47.5	58.9	5	24	6	32	5	6	6	21	0	2	11	250
8	S	Sale of Plants at Burntwood, Manchester.	69.4	48.0	58.7	5	26	6	29	6	37	6	34	1	2	31	251
9	S	15 SUNDAY AFTER TRINITY.	69.1	48.1	58.6	5	27	6	27	8	6	6	45	2	2	52	252
10	M		69.7	45.5	57.6	5	29	6	25	9	35	7	4	3	3	12	253
11	Tu	Boston Show.	68.7	47.0	57.3	5	30	6	22	11	8	7	24	4	8	33	254
12	W	Royal Caledonian Horticultural Society's Autumn Show.	69.1	44.8	57.0	5	32	6	20	0 a 28		7	51	5	3	54	255

From observation taken near London during forty-three years, the average day temperature of the week is 69.5°; and its night temperature 46.8°.

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HINTS ON HARDY FRUIT CULTURE.



GARDEN without fruit, and plenty of it, is unworthy of the name; it is a source of vexation rather than of pleasure—occasions much disappointment to its owner and of some to his friends, the pleasure of whose visit is wonderfully enhanced by the enjoyment of a juicy Peach or other fruit which may be in season.

I know full well that failures but too frequently spring from causes beyond our control. Cold cutting winds, untimely frosts, hailstorms, and dull, cold, wet weather when the blossom expands, are all sources of mischief hard to encounter and difficult—often impossible—to overcome. But when the difficulties are grappled with as they best may be, and due care and skill are devoted to each process of culture, not a year will pass without some success.

This year we have had abundant crops of Strawberries and of bush fruits; Nuts are plentiful, and some few varieties of Pears and Apples are laden with fruit. Next year, with a favourable spring, we may hope for fruit of all kinds in abundance after this season of rest, so favourable to the formation of strong plump fruit buds.

Before planting fruit trees of any kind weigh well the requirements of your family, your own tastes, the space at your disposal, and your ways and means. Avoid anything like a collection unless you possess an almost unlimited amount of space; rather select a few really good sorts and try to cultivate them well. Avoid crowding; never forget that a large tree will bear more and better fruit than half a dozen small trees. Do not let the term "large" mislead you, for I do not refer by it to the huge standards of orchards but to garden trees; and if your garden is small, far better would it be to have a fine pyramidal tree at each corner of the quarters, or at intervals of 10 feet, than to have a crowd of scrubby dwarfs, stunted, unhealthy, unsightly, and bearing some half dozen, or may be a dozen, under-sized fruits—a miserable return for all your pains and care.

The very best plan for a small garden is to plant pyramidal trees at the corners of the quarters with espaliers trained as palmette verriers along the sides, thus securing economy of space with strong free-growing healthy trees.

Whatever may be the system of culture you adopt master it thoroughly, and then carry it out in its fullest integrity. If you wish to indulge in a few fanciful forms of training take care that such training is well done, and do not forget before turning your hand to it that such work requires much attention and occupies considerable time, or failure total or partial will be the inevitable result. Let me earnestly urge upon the attention of all having the care of young trees to endeavour to make every tree a good model; you will not succeed in doing so with every one of them, but you will succeed in producing well-formed trees, erect and well-proportioned, pleasant to behold even when not laden with fruit. Nothing affords me greater pleasure when visiting a

garden than to be taken among the fruit trees, to have the manipulations of the pruner and trainer with its end and aim explained to me, and thus to find an intelligent method of culture united to painstaking and care.

This attention to young trees is a matter urgently demanding much more prominence than is usually given it. The young pliant growth will take any form, follow any direction we may choose to impart to it; but if carelessness and neglect once sets its stamp upon a tree, its traces can never be effaced by any subsequent efforts however skilful they may be.

That fruit trees are much neglected when young there can be no doubt, the leaning grotesque forms to be met with in so many gardens affording ample proof that it is so. Why is this? I cannot suppose it is owing to carelessness or ignorance, but rather to want of time on the part of those having the care of them; and I would urge upon gardeners the importance of pointing out to their employers the irreparable mischief which must follow neglect, and I would also press upon employers the important fact that a new garden requires more labour power than an old one. Every part of it and everything in it, especially the fruit trees, demands, and must have, an extraordinary amount of attention; and if the gardener fails to obtain an adequate amount of assistance something must be neglected—usually the fruit trees, for the flower and vegetable supply must be kept up to meet the daily demands.

There is one important point nothing should be allowed to interfere with, and that is the planting: only do this well, and if the trees are somewhat neglected they are not likely to suffer in health. By planting well I mean that there should be at least 2 feet of good soil below the roots of the young tree, and that soil should rest upon 6 inches of stone or other hard substance—an admirable plan practised by our forefathers to prevent the roots getting down to the till. Each station of this good soil should therefore be 2 feet deep by 6 feet square, and drains should be made if there is the slightest risk of any accumulation of water about the roots.

The soil of old gardens contains so much humus—vegetable matter—that when replanting it with young trees it should have an abundant mixture of lime and rough gritty matter; if this is done, and it is thrown up roughly to be sweetened by the air some time before planting is done, nothing more is necessary, and the trees are quite certain to grow satisfactorily.

I have the greatest respect, or rather veneration, for old timber trees and would not lightly remove one of them, but I never would retain a worn-out old fruit tree, for nothing can be more unsatisfactory. Take, for example, an old Peach tree. Why do you keep it, or rather why do you retain its old branches? "Because it is still fruitful," do you say? Yes. So it is, but what sort of fruit does it bear? Would your best dozen win a prize? I trow not. Cut it down, and if it put forth young vigorous branches, as is not unlikely, then let it remain, and you will obtain prize fruit and plenty of it; but if it fail to grow again strongly and well then up with it, for roots

as well as branches have done their work, and a young tree must take its place.—EDWARD LUCKHURST.

AURICULA NOTES.

SOME correspondence has appeared lately in your columns which induces me to take up a pen to champion my favourite flower. I do not think the *Auricula aphid* is such a formidable enemy as "D., Deal," has hitherto found it, and I venture to prophesy that if he deals with it as promptly as he is now doing it will sink into the category of a second-rate foe, to be kept at bay by watchfulness in the same way as the green aphid is. It is the loving watch upon your plants that gives you early information of coming mischief, be it damp, aphid, or rot in the calk, and early information enables you to apply that early remedy which alone will save so sensitive and refined a plant as an *Auricula*.

I have the *Aphid Auriculæ* still upon my plants, but in restricted numbers, and I am watching them closely. As I promised early in the year, I quarantined some infested alpine, but the aphid has not thriven upon them, from which I infer he dislikes the disturbance entailed by the necessary moving each time an observation is wanted. Does not this teach a lesson?

It has re-appeared upon some of the plants which were cleaned with care in February, washed—foliage, calk, and root—in soft soap and water, and repotted, and then repotted a second time in May or June when they were clean, but it is strongest on some few plants which, owing to their bearing seed, were isolated, not repotted in June, and on which I am now watching them. All this seems to show one dose may not be enough, the watch kept must be renewed, and if necessary the treatment be repeated.

I am now using Gishurst compound, of which I mix 2 ozs. in one gallon of water and let it stand a few hours, and am not afraid to dip the plant in—pot, roots, leaves and all; though, of course, with the mealy-foliaged plants a more delicate operation is required, and the foliage must be exempted from so drastic a treatment. I find no harm to result but rather good, and my gardener, Robert Stafford, declares the plants directly benefit from the Gishurst, an opinion to which I scarcely like to stand godfather, though I am watching to see, and am convinced of its benefit indirectly in its effect upon insect life. The large bulk of my collection is clean, a small quantity of aphid only having made its appearance on plants repotted in June, but still enough to require watching. It would be interesting to know if other people's experience in any way coincides with mine.

This year I had the pleasure of blooming my first seedling *Auriculas*, chance-saved seed from my own flowers. And what a pleasure there is in a bed of seedlings! It is a lottery in which you draw all prizes and no blanks. Every day discloses some new beauty, and you know that your plants have all the vigour and health of their whole life before them. But though it is all gain and no loss, the great prizes are very few in such a lot as I describe. The seed was saved from good flowers. *Privater* (Grimes), *Ringleader* (Kenyon), *Colonel Chamneys* (Turner), *Lord Lee* (Berry), *Mary Ann* (Fletcher), *Empress* (Turner), *Eliza* (Stims), *Mrs. Smith* (Smith), &c.; but not crossed carefully with selected pollen parents, the fertilisation was a matter of chance, and as prophesied twelve months ago by the Rev. F. D. Horner, what wonder that the quality was inferior? To a florist the lot showed every fault to which the *Auricula* is subject. To others their brilliance and exquisite scent commanded the admiration of all who saw them. To me they were a source of constant delight and wonder. Why should *Empress*, for example, give me first a really good alpine firm and rich with its dense yellow paste, second a grey edge resembling *Conqueror* of Europe, and third a rich dark self only spoilt by a wavy paste? and why side by side should *Fletcher's Mary Ann* give me a lovely deep violet self, and then a white edge of good proportions and quality spoilt by a staring pin eye? The very disappointments of the lot were delightful in their provoking variety; every fault, nearly every virtue, were blended in indescribable confusion, but the bloom passed away and has left the memory of the most charming flower bed I ever enjoyed, and a little experience of failure by which I hope to benefit in future in a more careful selection of seed, which should give a larger per-centage of those good qualities which make one variety better than another.

Before I close my notes may I ask your correspondents if

they know any larger yellow alpine *Auricula* than *Primula auricula*? Years ago I found in the high Alps of Switzerland, under a high overhanging cliff facing the north where the sun seldom struck, the largest and richest *Auricula* I ever saw, the flower stem from 9 to 10 inches, with eighteen pips of large yellow flowers, and the whole plant richly dusted over with white farina. I can scarcely think it is the *Primula auricula*, which is now a garden favourite, and which thrives well both in pot and open-air border with me, but which when in its finest health and condition never approaches the lusty giant I remember, and which I hope some day again to search for on the St. Gothard.—JOHN T. D. LLEWELYN.

WINTER CUCUMBER CULTURE.

CUCUMBERS, like many other garden products, appear to be valued just in proportion to their scarcity. If by some slip of the tongue of an assistant an idea becomes settled in the kitchen that Cucumbers are scarce in the garden the kitchen people will become especially alive to their importance, and every order sent to the gardener will begin with Cucumbers. If there is one season more than another when Cucumbers are really scarce, and at times especially valued, it is during the months of December, January, and February. I have generally passed through these months tolerably comfortably by commencing preparations in good time and thus mostly avoided any serious scarcity, and, if scarcity at times has occurred, by keeping as much as possible the knowledge of that circumstance to myself.

Cucumbers for fruiting during the winter should be planted at once, and the plants should be strong to begin with. I sow the seeds during the last week in July, and grow the plants under the influence of all the light and air they will endure, with the object of producing woody stems and medium-sized thick leaves—not large flabby foliage.

It is no use attempting the growth of winter Cucumbers unless well-heated houses are provided, I mean houses containing a sufficient amount of piping to preserve a night temperature of 70° in severe weather without violently heating the pipes. That temperature may not always be required, but it is none the less necessary that the pipes should be able to produce it. Overheated pipes promote red spider, weakly growths, and deformed fruits.

In addition to pipes for affording bottom heat I like a good quantity of dung and leaves, and the Cucumbers like it too. A bottom heat of 80° to 85° is a suitable temperature for the roots.

Soil, of course, is important. It should be fresh, good, and rough. Chopped turf just blackened with soot I have found suitable; if at all poor, one-third of horse droppings—old mushroom-bed manure—may be mixed with the loam. A great bulk should not be employed at once. Commence with a small hillock for each plant, and surface-dress weekly or whenever roots protrude and ask for fresh food. Active surface roots induce healthy fruitful growth, and open—previously warmed—turfy soil and warm water secure active roots. Water must be given according to circumstances. It must at all times be sufficient, at no time excessive.

Temperature, ventilation, and atmospheric moisture are important elements in winter Cucumber culture, and not much less important is bright clean glass. A night temperature of 65° is a safe one, with just a chink for air in the top ventilators. During very severe and also dull weather the thermometer may fall to 60° at 6 A.M. The day temperature should be 5° or 6° higher by fire heat, and should reach its maximum at 9 A.M. That is important. The sun heat may rise to 80° to 85°. Watch for this, and bottle it up by early closing; it will save coals and produce green foliage (which red spiders do not appear to like), and green Cucumbers too, which look well anywhere—on the plants or the table. As the temperature increases so let the moisture increase; this will be insured by the troughs on the pipes when the heat is from the fire alone, but with sun heat the walls and paths occasionally need damping. Syringe on favourable occasions. The water must not hang about the plants during hour after hour. One good syringing weekly is more effectual than daily squirts. Prevent red spider if possible. Perfectly clear soot water is a deterrent; it is also stimulating to the plants.

Great watchfulness of the weather at night, early morning attention, cautious admittance of air, intelligent guidance of heat and moisture, are the chief essentials to success in winter Cucumber culture. A trio of excellent sorts are *Telegraph*,

Lord Kenyon's Favourite, and Munro's Duke of Edinburgh.
—A RETIRED GARDENER.

A GOOD SUMMER APPLE.

IN the last volume of the Journal (pages 226 and 267) I mentioned an unnamed early Apple. I now send some fruit for your examination. I have had a very good crop on my tree this summer, notwithstanding the unfavourable season for most other sorts. In the spring this variety gave a succession of blooms extending over a long period of frosty weather; the last blooms, however, had a few fine days to set the pollen, and so a crop was saved. By the way, all my varieties which have this habit of long succession of blooms are bearing heavy crops, such habit being, I consider, of great value in an Apple, giving the variety a good chance of escaping the spring frosts which readily kill the pollen, while such a variety as Scarlet Nonpareil, for instance, which has all its blossoms out at once, has but one chance in the season.

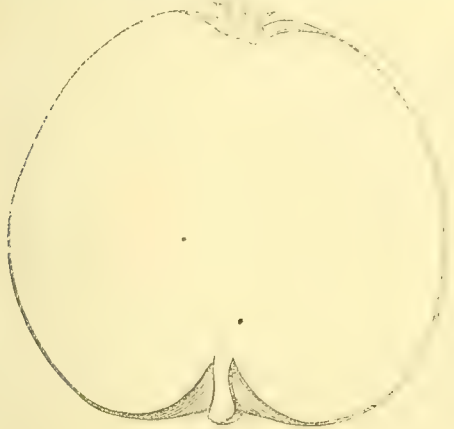


Fig. 42.

But to return to our Apple. Its refreshing juice has been very welcome during the hot weather, a rich perfume and handsome appearance being among its attractions. In regard to its ripening period I have had it ripe in the middle of July in former seasons, but this year it was not ripe till the end of the month, in consequence, I suppose, of the failure of the first blossoms and the backwardness of the season. My ground will not produce early crops, and the tree is in a cold place partly shaded, and is on a deep-rooting stock.

I cannot say what would be the result of grafting on the Paradise stocks and planting on a warm soil, but I certainly must call this a very early Apple. I have some dwarfs on Rivers' Nonsuch Paradise stocks, and intend to try a better soil and position.

I do not know the origin of this variety. I purchased it among some unnamed trees and plants of a nurseryman, who believes that the Apple tree came from Norfolk. It has a drooping habit of growth, and would therefore not make a good pyramid.—W. GROVES, *Shortlands, Kent.*

[Fruit small, of the size and shape of Early Red Margare but not so distinctly striped as that variety; conical, with obtuse ribs on the sides. Skin smooth, covered nearly all over with a dull livid red, which is marked with crimson stripes on the side next the sun, and on the shaded side it has a greenish-yellow tinge mixed with the red. Eye with erect somewhat divergent segments, set in a narrow basin. Stalk short, about a quarter of an inch long, inserted in a pretty deep cavity. Flesh pale yellow, tinged with green just before it ripens, but becoming quite yellow, firm, very juicy, and with a brisk aromatic flavour. Cells closed. Calyx-tube funnel-shaped. Stamens median. It belongs to group 30 of Dr. Hogg's New Classification of Apples.

The fruit is remarkably fragrant, and as a good market Apple we cannot suppose any to be more attractive.]

MILDEW ON ROSES.

CAN and will any of your experienced Rose-growing correspondents tell me what will prevent or cure mildew on Roses? I

am utterly baffled by it, though I am familiar with Rose culture from long practice and the frequent perusal of all the best treatises on the subject, and also all that is said in "our Journal;" therefore merely referring me to sulphur is useless.

The soil is stiff loam mixed with stones and corks with hot sun and drought, the situation near Barnet, ten miles north of London. Roses grow here after pruning in April with marvellous vigour until the flower buds are many and large, but then there seems a halt, and full Roses, like Duc de Rohan and Madame Victor Verdier, this year and last, open badly or not at all, and with brilliancy of colouring gone.

After the first flowers are past and growth begins again mildew appears and is irrepressible. I have tried removal or transplanting, also leaving the trees in one place for some years, also with rotten manure below the roots, and planted without, with mulching, and with merely hoeing, but all mildew as I have described above.

Now, what is the remedy? for I have both watered and left others unwatered, and as yet have not found a cure for the pest.—S. S.

THE POTATO DISEASE.

ALTHOUGH several writers, myself amongst the number, have recommended the lifting of Potatoes immediately they have ceased swelling, even if the haulm were still green and the skins of the tubers not set, no one that I am aware of has advised their removal from the ground when the tubers were only half swelled, as implied by Mr. Muir on page 172. That tubers will keep well when dug in an unripe state I have, besides my own experience, the evidence of such cultivators as Messrs. Luckhurst, Abbey, Gilbert, and Wright. I know the tubers will not only keep well, but will mature as well out of the ground as in it, and will become of splendid quality if they are properly managed. I think I know a good Potato when it is cooked, and I can assure Mr. Muir that I had Victorias last year which were lifted when the haulm was still green, and when the skins ruffled with the slightest touch, which were of splendid quality throughout the winter. Mr. Muir conveys the idea that tubers thus lifted are "never good for food;" he should have said never as he manages them. It is not necessary to repeat the right mode of management; Mr. Luckhurst has recently stated the system fully and well, and I can vouch for it that the plan he described is safe, sound, and certain. If the tubers have ceased swelling they may be taken up, and they will mature as well out of the ground as in it, and often very much better. Mr. Muir also states that tubers when taken up in an unripe state are "not fit for planting anywhere." He is in error there. I have tried them for ten years consecutively with the special object of testing the point, and the stock which has been so treated is as productive now as ever it was, and I believe as any Potatoes possibly can be. I care not what theory is advanced to prove that this cannot be the case when I have the fact before me that it can and is.

It will not do to let the haulm remain to be blackened before the crop is dug; but if the tubers attain a full size before the malady affects the haulm, and the crop is then taken up, it is safe. I agree with Mr. Muir that if the crop is actually diseased it may as well remain in the ground as be piled in heaps above it. I agree with him also that "wet weather is the sure propagator and promoter of disease." On this point a recent visit to London has enabled me to obtain the best evidence on that point that I think has ever been placed before the public. I am indebted to Mr. Wright for what I am about to submit, and why it has never appeared before is to me not a little surprising. The compiler of the following table, which must have cost a considerable amount of labour, has evidently never been at a loss for a subject to write about, or he would not have kept the matter in his desk for four years. However, it is at my disposal now to do as I like with, and my decision is to send it to the Journal, where it ought to have been before. It was in combating some vague electricity notions that I advanced in conversation that the proof was adduced that excessive wet is the real cause of the Potato disease. I will now append from what Mr. Wright has placed in my hands.

"Heavy and continuous rain in the warm summer months," he has written, "is the primary cause of the Potato disease. Other contingencies have their effect, but summer rain falling in extreme quantity is the great disease lever and governor. The overpowering influence which rain exerts in connection with this perplexing visitation is strikingly demonstrated in

the following table. It extends over a period of thirty years known as the disease period, computed from the fell outbreak in 1845 to the close of 1872. The relative amount of disease in the different years is the result of personal observation, confirmed by other observers in the same district who have given special attention to the subject. After the relative amount of disease in the different years had been determined (not before), the monthly rainfall in the same district was obtained. It was kindly furnished by careful collectors of rain of established reputation—the Rev. J. E. Cross of Appleby Vicarage; A. S. L. Melville, Esq., of Branston, Lincoln; and G. J. Symons, Esq., the eminent meteorologist of Camden Square, London. The first attempt to elucidate from the somewhat formidable array of figures a principle of Potato-disease governance was a failure. The gross average annual fall of rain and the average of each year separately were first taken, assuming that in proportion of each to the whole so would the proportion of disease be. But on this no reliable data could be founded, and for a very good reason, that the rains of winter have no connection with the matter of the summer malady. The next procedure was to prove the thirty years' average of the amounts falling in the Potato-growing months, April to September, both inclusive. This proved itself 13.30 inches. On finding the amounts of the same years separately, and noting their relative proportion with the gross average of the whole, the plus + and minus — show, not quite with unerring exactitude, but in a very remarkable manner, that the ebb and flow of the disease float with what may be called the ebb and flow of rain in the same years and district.

"The extent of the disease is divided into three general and intelligible classes, prefixed by the years of 'no disease,' followed by 'slight disease,' 'decided disease,' and 'great disease.' The amount of rain in the six months is given on the same line as the year, together with the excess or deficiency in relation to the general average, which is also stated at the top of every alternate column. Take, as an example, the second year named. It is 1854 in the 'no disease' column. The quantity of rain for this year in the six months, April to September, is 9.32 inches. This is 3.98 inches below the general average of 13.30, and is so signified by the minus sign —, excess being signified by the plus sign +. The table quite removes the paramount influence of rain from the category of conjecture in seeking a cause for disease-outbreaks, and places it as a fact demonstrated; and it will require argument of extraordinary subtlety to reason away the position, that the first great acting cause of the Potato disease is excessive rain falling in the period of growth, and especially at the juncture when the plant is on the eve of ripening.

"The table, however, shows a few, very few, failing points on the face of it. It would have proved the position still more clearly had April been excluded and October added. It would, moreover, have been perfectly fair to have adopted this arrangement, seeing that the month of April can exert no practical or immediate influence on the spread of disease, while October certainly does so occasionally, although not to a serious extent. The theory, however, shall not be strained, but shall stand on its merits as originally compiled.

"But the apparent weak points of the table will bear examination. Let us glance at them. It appears, then, to be at fault inasmuch as the 'no disease' year of 1867 shows an excess of rain of 0.14 inch above average, while the 'decided disease' year of 1852 shows a deficiency of 0.39 below average. First referring to 1867 and its seeming excess we find that it was contributed by April, May, and June (which affects the disease only slightly if at all), averaging 2.53 inches; while the latter three months—July, August, and September (which are of supreme moment in fostering the murrain), gave an average of only 1.94 inch, which is really not an excess at all, in the disease-producing months. With this examination the apparent error vanishes. Now let the 'decided disease' year of 1852 with its 0.39 deficiency be placed in the crucible. The first four months—April, May, June, and July—only gave a rain average of 1.94, while the two months following—August and September—averaged not less than 3.19 inches, the amount for September being 4.16 inches. This influx, coming at a critical time, accounts for the mischief which the four fine months preceding could not avert. Again, 1847, a 'slight disease' year, shows an excess. This excess is contributed by May and June, which averaged 3.75, the remaining four months averaging only 1.31 inches. The disease showed itself this year very early and again subsided. The same may be said of 1861–2, and are marked 'E' to distinguish them. That the amount

of disease is not expressed by the figures in exact gradation and with mathematical accuracy may be accounted for by the local nature of rain, especially thunderstorms and other contingencies, such as cloud and temperature. What differences there are, are therefore essentially due to local and varying influences, as limited (in area) thunder showers, and other circumstances such as varying cloud, atmospheric moisture, and temperature. Such, however, do not materially weaken the remarkable proof the table gives as to the pre-eminent power of excessive rain as the great foster-parent of the devastating Potato murrain."

AVERAGE OF HALF-YEARLY RAINFALL
OF THE POTATO-GROWING MONTHS APRIL TO SEPTEMBER INCLUSIVE, 1844 TO 1873,
WITH FLUCTUATIONS AND THEIR INFLUENCE ON THE POTATO DISEASE, THE AVERAGE RAINFALL FOR
THE ABOVE PERIOD AND MONTHS BEING 13.30 INCHES.

Years of No Disease.	Rain from April to Sept. and re- lation to average of 13.30 inches.	Years of Slight Disease.	Rain from April to Sept. and re- lation to average of 13.30 inches.	Years of Very Decided Disease.	Rain from April to Sept. and re- lation to average of 13.30 inches.	Years of Great Disease.	Rain from April to Sept. and re- lation to average of 13.30 inches.
1844	10.20 — 3.10	1847E	13.75 + 0.47	1846	14.50 + 1.20	1845	15.50 + 2.10
1854	9.32 — 3.98	1850	11.61 — 1.69	1851	13.33 + 0.03	1848	18.45 + 5.15
1855	10.25 — 3.05	1853	10.88 — 2.42	1857	15.18 + 1.88	1849	16.00 + 2.70
1858	9.63 — 3.67	1856	11.62 — 1.68	1852	12.91 — 0.39	1860	16.78 + 3.48
1864	8.94 — 4.36	1861E	10.79 — 2.51	1866	14.95 + 1.65	1871	16.94 + 3.64
1867	13.44 + 0.14	1862E	13.04 — 0.26	1859	13.94 + 0.64	1872	17.93 + 4.63
1868	7.68 — 5.67	1863	11.47 — 1.83				
1870	7.72 — 5.58	1865	12.09 — 1.21				
		1869	12.35 — 0.95				
		1873	11.97 — 1.33				
8		10		6		6	

I have nothing to add to the above table and remarks, but I may at some future time make further extracts from the notes which have been placed in my hands by one who has evidently given much attention to Potato cultivation and disease.—
A NORTHERN GARDENER.

ROSES IN NORTH WALES.

As you have had "Notes on Roses" from South Wales, I thought perhaps a few jottings thereon from North Wales would not be unacceptable, particularly as these come from a high elevation—nearly 700 feet above the sea level. To begin, at the time of the grand National Rose Show we had not a bloom out, so that we had to be content with the very full description given by "WYLD SAVAGE" in this journal. We do not grow a large collection here (some two hundred plants or thereabouts), but as our situation is high and exposed I thought probably the sorts that do well here might be useful to some of your readers who are similarly situated. The majority of them are budded low on the Manetti; I have also a few on the Briar, which do very fairly on our soil—a medium loam. The sorts which have succeeded best here are Marquise de Castellane, very large and fine; Lyonais, Mdle. Marie Finger, Maurice Bernardin, Miss Ingram, Lord Raglan, Fisher Holmes, Baron A. de Rothschild, Baronne de Rothschild, François Michelon, Baronne Prevost, Jules Margottin, John Hopper, Lord Clyde, Olga Mariz, Baron de Bonstetten, Abbé Brammerel, Ferdinand de Lesseps, and Princess Louise Victoria. These do best in our exposed

climate, though we have many other first-rate sorts that I have noticed succeed well in more favoured localities. Of Tea Roses we have only a limited number as yet, and I have not tried them sufficiently to speak with confidence as to their capabilities for standing high elevations. The cultivation I adopt for Roses is the same as "A RETIRED GARDENER" recommends in the vegetable garden—namely, a plentiful supply of manure both in the solid and liquid form, and their healthy appearance tells me as plainly as words how much they like it.

I wish I could say the same as regards Pierre Notting being a good autumn bloomer as the "WYLD SAVAGE" does. With me it positively refuses to open, owing, I suppose, to the continued rain which we have had almost daily.—AN ENGLISHMAN IN WALES.

CARLISLE.

"How fair, amid the depth of summer green,
Spread forth thy walls, Carlisle! thy castled heights,
Abrupt and lofty; thy Cathedral tower
Majestic and alone; thy beauteous bridge
Spanning the Eden, where the angler sits
Patient so long, and mark the browsing sheep
Like sprinkled snow amid the verdant vales."

CARLISLE, says the author of Arthur's "Guide" to that city, is one of the oldest, and at the same time one of the newest, of cities. Its foundations speak of Roman conquest and Roman civilisation and refinement. Its chief buildings are monuments of mediæval art. The greater number of its houses, its churches, and its chapels have been erected within living memory. It has a population of more than thirty thousand inhabitants. It is the border city on the great trunk line of rail which has the metropolis of a kingdom at either end. It is encompassed by three rivers—the Eden, the Caldew, and the Petteril—and it has, therefore, been aptly called "the City of the Water." The scenic beauty unfolded from its heights can hardly be surpassed in extent, variety, and grandeur. Built upon a hill which its walls once enclosed, but which would now shut-out its most populous suburbs, it commands a prospect only limited by the lofty mountain chain that encircles the great basin in which Cumberlands lies. From the summit of the Cathedral, or from the tower of the Castle, the eye sweeps without interruption a vast landscape—rich in wood and water and fertile valleys—over which the light and the shadow alternate, and the seasons spread their variegated hues. Southward, over these sunny fields and dark woodlands the majestic Skiddaw rears his noble crest, and Helvellyn his wedgelike peak radiant with the first and last rays of the sun. Saddleback and the lesser hills link the apparently unbroken chain with Crossfell and the eastern range; while further to the left the Northumberland fells bound the horizon. Then come the uplands by Bewcastle and the border, and the pastoral Cheviots, "Scotia's southern bound." Away round to the west, the magnificent belt is terminated by Criffel, standing in solemn grandeur above the Solway.

"'Tis a prospect fair—of river, wood, hill, and vale,
As ever eye could wish for."

A few notable places (horticulturally) surrounding the city have been mentioned, and more extended notes of two of the chief nurseries may appropriately be published.

THE KNOWEFIELD NURSERIES.

These nursery grounds, which belong to Mr. Baxter Smith and Mr. James Watt, the partners of the old-established firm of Little & Ballantyne, occupy 130 acres, have been most happily chosen for situation, quality, and variety of soils. The site is directly north of the "merry city," on an open and elevated situation. Fewer hedges are seen here than in most nurseries, which is considered a great advantage to hardy trees and shrubs, particularly in reference to late spring frosts. The young wood is also much stiffer and better matured, and is preferred both for home and foreign trade. The grounds are within ten minutes' drive of the central station, and well repay a visit. The carriage entrance is very beautiful, and the borders, for above a quarter of a mile in length, are planted near the margin with a choice collection of ornamental evergreen shrubs, Conifers, Rhododendrons, Hollies, &c., backed-up with fine specimens of weeping and other trees suitable for immediate effect. The broad belts forming the background to these borders furnish great variety both of form and habit, and some striking yet pleasing combinations, as, for instance, when the golden and black-leaved Oaks are planted side by side and backed-up with the Silver Poplar, or when the Lime in one or other of its forms is grouped with contrasting forms,

like the Oak, the Mountain Elm, the Aspen, the Ash, or the Plane. Specimens of all sizes, from 3 feet to 20 feet or more, of the greater number of hardy ornamental trees are planted-out here, in order to give some idea of the effect which the same kind of tree produces in different stages of growth, and in different combinations with other kinds—considerations of some importance, which are too apt to be overlooked in making arrangements for permanent plantations. Among shrubs the following are especially worthy of notice—viz., *Berberis vulgaris atro-purpurea*, the dark purple-leaved Barberry; *B. stenophylla*, a hybrid between *B. Darwinii* and *B. empetrifolia*, possessing the flowers of the former with a habit and hardiness superior to it. Azaleas of the Pontica and Ghent sections exist here in great variety, as do also Rhododendrons, Heaths, Hollies, Gaultherias, Andromedas, Kalmias, Sedums, and Spiræas, among which latter *S. Fortunei*, a very dwarf white-flowered sort, is one of the best.

At the top of the Avenue, on the right, is the pinetum, in which specimens of all the really hardy Coniferae at present in cultivation are gathered together. The situation chosen for testing these important classes of trees is one of the best that could be found for the purpose, being high and fully exposed to all the points of the compass; so that if any sort is found tender here, it cannot with confidence be recommended for any colder locality or situation. The collection embraces all that is worth growing among the really hardy kinds, while those that are found fit only for the most favoured localities find the necessary shelter and protection in pits and in closely hedged quarters. The most remarkable for robust health and fine form in the pinetum are *Piceas lasiocarpa*, *magnifica*, *Parsonsi*, *nobilis*, and *grandis*; *Pinus Murrayana*, *ponderosa*, and *Jeffreyi*; *Cryptomeria elegans* and *Lobbi*, *Balfourii*, &c.; *Wellingtonia gigantea*, and its variety *pendula*—a handsome form of the Mammoth Tree, which originated in this establishment a few years ago. It is a striking variation from the style of the ordinary form of the *Wellingtonia*, the branches and branchlets being quite pendulous, and consequently more graceful than the massive yet elegant original, and will be sent out by this firm for the first time in the autumn.

Turning from the pinetum to the left the main block of houses forms the background to the view in that direction, and the foreground consists of a flower garden in grass, surrounded on three sides by borders of ornamental shrubs. In borders in the neighbourhood of the flower garden is a collection of Hollies in all the most popular and effective varieties.

In one of the borders near the house stands the original tree of the Knowefield Tricolor Beech. This is a new form of Purple Beech, the leaves of which are boldly margined with silver, and strikingly flamed and pencilled with brilliant crimson on a dark coppery ground colour. Near by stands the original of another Knowefield production, the black-leaved Oak, the best of all the dark-leaved Oaks, which, though well known to connoisseurs of hardy ornamental trees, is by no means so generally known as it deserves to be among those who have most to do with plantations practically.

As regards the plant houses, they are admirably arranged and well adapted for the purpose of plant-growing, and are stocked as one would expect to see a well-appointed nursery with classes of plants in most demand. There are about 500 feet of glass, with innumerable pits or cold frames, covering altogether nearly an acre of ground.

Roses are a decided speciality of this establishment—a fact that strikes the visitor forcibly when he finds himself in the midst of the wide-stretching quarters devoted to their culture. Some idea of the importance and extent of this department may be gathered when it is stated that upwards of fifty thousand standard and dwarf Roses are grown annually, to meet the ordinary demands of customers in this country and in America.

Fruit trees, too, are grown very extensively, from eight to ten acres being devoted to their culture; and the general nursery stock of transplanted and seedling forest trees and shrubs is also very varied and complete.

Forest trees are also a great speciality of this nursery, which is simply a plant factory, turning out every season immense quantities which are sent all over the kingdom.

The seed department is conducted at present in English Street and Blackfriars Street, where the firm has for nearly half a century carried on that branch; but increasing connection has necessitated their moving to larger premises, and there is now in course of construction a handsome block situated in the most prominent part of the city, to which they

will shortly remove. When completed this will certainly be one of the finest buildings in the city, and being of the native stone it is much admired, being from plans by the diocesan architect, and is a mixture of Grecian and Scotch baronial architecture.

STANWIX AND HARRABY NURSERIES.

THESE belong to Messrs. Clark Brothers & Co., and are five and twenty acres in extent respectively. The first-named is reached from the city by crossing the bridge over the Eden, and is three-quarters of a mile from the Town Hall. This nursery has only been opened about six years, but is now established. It contains a miscellaneous nursery stock, principally, however, of Roses, fruit trees, and Conifers, which are in excellent condition. Rhododendrons and all American plants are in robust growth without any addition having been made to the soil. The main feature on entering the grounds is the centre walk, running directly down to the extreme end of the nursery and curving round the centre conservatory, which is placed so as to be the prominent object at the end of this walk. This walk is bordered with Conifers, shrubs, &c., and contains good examples of *Pinus nobilis*, *P. Nordmanniana*, *P. Pinsapo*, &c.; *Cupressus* of sorts, very prominent for beauty being *C. erecta viridis*, of upright habit with dense dark green foliage; *Wellingtonia gigantea*, *Theopopses* of sorts; *Cryptomeria elegans*, which is here quite hardy and much admired for its distinct habit of foliage from all other Conifers. *Taxus aurea variegata* is this season very bright, and makes an effective contrast in a mixed border. Hybrid named Rhododendrons grafted on tall stems are here planted down the border, and in spring when in full bloom are very beautiful. Two specimens of the weeping common Holly, one on either side, attract notice: when in full berry they are very conspicuous and beautiful. *Acer Negundo foliis variegatis* contrasts well with the green of the evergreens. There are also many good forest trees, some being thinly planted and have well-shaped heads. The other parts of the nursery are laid out in the usual squares and filled with variegated and common Hollies, hybrid Rhododendrons, common and Portugal Laurels, common and Irish Yews, &c. The Colchican Laurel grows very luxuriantly and has not yet been injured by frost. This is due to its habit of ripening-off early, in this respect differing from the common Laurel, which is apt to make a late autumn growth which the frost very often cuts down. *Rhus laciniata*, dwarf in habit, is noticeable; and *Ligustrum ovalifolium aureum variegatum* is very bright, and is suitable for town-planting.

Fruit trees are grown as standards pyramid and dwarf, trained and untrained.

Roses are also largely grown, and owing to the International Flower Show have been subjected to a system of disbudding which promises to be a success. All the Roses worthy of cultivation are propagated. Dahlias are also largely grown, new varieties being added yearly. Pansies are carefully grown, and hardy Lilliums are blooming abundantly.

Among herbaceous plants Delphiniums are notably conspicuous; one, the Bella Donna, light azure blue. *Ranunculo-liflorum*, beautiful bronze blue and with double flowers, Herman Stenger and Nahamah, are also very fine. Spiræas are also well represented. Hardy spring bedding plants, such as *Myosotis*, *Arabises*, &c., are included in the collection. Among new bedding plants *Tropæolum Hunterii*, dwarf, neat habit, bronzy foliage, and covered with bright scarlet flowers, is regarded as a great acquisition.

On entering the houses, which are seven in number, we find healthy plants of Palms, exotic and Tree Ferns, Fuchsias, Geraniums, stove plants, &c.; while the cold frames are stocked with Camellias, Azaleas, Solanums, tree Carnations, Cyclamens, &c., medium-size plants in preparation for winter and spring blooming. Two of the houses are nearly filled with Vines in pots and now ripening off, having made an excellent growth. Planting and fruiting canes of all the leading varieties are cultivated.

The Harraby Nursery is situated at the south end of Carlisle, two miles from the Town Hall, on the direct turnpike road to London, and is twenty acres in extent. It has only been opened three years, and is principally reserved for the growth of forest trees, such as Scotch, Spruce, and Larch Firs, Sycamore, Ash, Elm, &c., for which the soil and situation is well adapted. One square of Larch contains 300,000 trees, another square of Scotch adjoining contains 100,000, while another contains 100,000 Spruce and so on, with Thorns for hedges,

Beech, Oak, Ash, Sycamore, Elm, Poplar, *Pinus austriaca*, &c.

This firm has extensive premises situated in Scotch Street near the Town Hall—office, seed shop, and warehouses.—J. A., Eskdale.

OUR Carlisle correspondent telegraphs that the preparations for the Show, which opens to-day (Thursday), are on an unusually extensive scale. The marquee for stove plants is 450 feet long by 50 feet wide, and is heated; and the fruit and vegetable tents are almost equally large. The space devoted to the Show is upwards of thirty acres in extent, and is picturequely situated between the Castle and the river Eden. No efforts are being spared by the executive to render the Show complete. The expense incurred is fully £2500, and about £1000 have been received in subscriptions. With fine weather success is certain. The exhibits are arriving, and one of the most varied and extensive Shows ever held is anticipated. It continues open during the week, and should be inspected by all who are interested in horticultural pursuits.

The first full report of the Exhibition will appear in our next issue.

ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 4TH.

FRUIT COMMITTEE.—John Lee, Esq., in the chair. Five varieties of Melons were sent from Mr. R. Gilbert of Burghley, raised from seeds that had been sent from India; but like all Indian Melons, they are worthless when grown under artificial treatment in this country. Those sent were no exception to the general rule. A green-fleshed Melon was sent by Mr. C. Rowe, The Gardens, Benham Park, near Newbury. It was cut from the third crop from the same plant, and was considered to be good, considering the circumstances under which it had been grown. The Committee desired to see it again. It has been named Benham Park Green-flesh.

A collection of five varieties of Nectarines—viz., Byron, Pine Apple, Humboldt, and a seedling yellow-fleshed, also large specimens of Spencer, but none of them were ripe. Also a fine collection of Peaches, comprising *Violette Hâtive*, Prince of Wales, Barrington, Princess of Wales, and seedlings, but neither were they in condition. These were sent from Messrs. Rivers of Sawbridgeworth. The same firm sent a collection of fine-looking Pears, but unripe. From Mr. J. Douglas, gardener to F. Whitbourn, Esq., Loxford Hall, came three sorts of Pears from pot trees, but the flavour was not first-rate, although the fruit was good-looking.

A very fine collection of thirty varieties of Tomatoes was exhibited from the garden of the Society at Chiswick; and Mr. Turner sent a dish of Schoolmaster Potato.

This was not a large meeting, but the productions were of an interesting character.

FLORAL COMMITTEE.—G. F. Wilson, Esq., in the chair. A grand and extensive collection of Dahlias was exhibited by Mr. John Keynes, Salisbury, and no less than five first-class certificates were awarded to Mr. Keynes for Countess, Henry Bond, Bessie Ford, Charles Wyatt, and Louisa Neate. The other examples in this collection were grand, and consisted of Empress, Maud, Delight, Robert Burns, George Barnes, Rifleman, Admiration, William Dawkes, Cuckoo, and Cleopatra. The whole of this collection were raised by Mr. Keynes. Other contributors of Dahlias were a collection of seedlings from Messrs. Rawlings & Brothers, Old Church, Romford; Messrs. Turner, Slough, who sent Wizard, Philip Frost, and Charles Lidgard, for which a vote of thanks was awarded; also to Mr. G. Smith, Hedge Lane, Edmonton, for a collection of twelve varieties. Mr. G. Harris, Orpington, Kent, sent Dahlias Constancy and Cavalier, which were passed. Mr. Turner also sent *Petunia Mount Beauty*, and *Carnation Lady of Avenal*, to which a vote of thanks was awarded. Votes of thanks was also awarded to Mr. Ollerhead, gardener to Sir H. W. Peek, M.P., for *Oncidium lanceanum*; and to Messrs. Veitch & Sons for an extensive collection of seedling Begonias, the greatest portion of which had been lifted from the open ground that morning, and must prove most valuable for outdoor summer display; to Mr. Parker, Tooting, for cut blooms of *Lobelia siphilitica* and *Hydrangea paniculata grandiflora*; to Mr. Kinghorn, Richmond, for *Tropæolum speciosum*, *Hydrangea paniculata grandiflora*, and *Magnolia Lœnné*.

Some very promising seedling *Lapagerias* came from Mr. J. Stokes, gardener to Mrs. Charles Crossland, Crossland Lodge, Huddersfield, for which a vote of thanks was awarded. Mr. G. F. Wilson was also awarded a vote of thanks for a fasciated flower of *Agapanthus umbellatus* and from Mr. Cannell, Swanley, Kent, came five collections of Cockscombs, twenty-four

distinct varieties of double Pelargoniums, a collection of single Pelargoniums very fine, and a box of cut blooms of his new decorative Geranium New Life, as well as several plants of the same variety, to which a first-class certificate was awarded as a decorative plant; it is certainly a very dwarf and free-flowering variety as well as a novelty. Amongst his collection of cut blooms of single varieties the Committee highly commended one named Dr. J. Denny, a decided advance on anything we at present possess. A vote of thanks was also awarded to Mr. Cannell for his collection of double varieties, which consisted of G. Magnilla, Le Constitution, Neomie, M. Sauth, M. Thibaut, M. Buchler, Le Terrible, M. C. Rontier, Jean Mace, E. Bandowin, J. Dollfus, L. Buchner, L. Boutard, M. Waddington, H. Burice, L. Lemoine, Rubis, Wonderful, J. C. Wagner, Leamington Lassie, M. R. Buist, Herzegovine, M. de Roquefeuille, and a splendid white M. Ballet. Some very fine cut blooms of Ivy-leaf Geraniums Nemis, St. George, and Gem came from Mr. George of Putney cut from the open air, and an interesting collection of a dozen boxes of Asters from the Society's gardens, Chiswick.

PROVINCIAL SHOW OF THE ROYAL HORTICULTURAL SOCIETY.

Our readers are already aware that the Council of the Royal Horticultural Society have decided to hold the Great Provincial Show at Preston in 1878. An arrangement has been made with the Preston Nursery and Pleasure Gardens Company, of which T. M. Shuttleworth, Esq., is Chairman, to co-operate in carrying out the Show, and the Company will stand in the same relation to the Society as local horticultural societies have done in former years wherever the Show has been held.

The ground selected on which to hold the Show is one of the best adapted, and certainly the most beautiful and picturesque of all the sites the Society has ever occupied. Situated within a much shorter distance of the Town Hall of Preston than the Aston Grounds are to that of Birmingham, and in close contiguity to the beautiful gardens and picturesque grounds of Flarington Hall, the site commands a magnificent panorama of Ribblesdale. In the foreground there is the river Ribble, and away in the distance Hoghton Tower, where King James I. knighted the sirloin of beef. Redscar, the residence of W. Assheton Cross, Esq., embosomed in waves of massive wood; Pendle and Pendle Hill; and Walton where Cromwell defeated the Royal army under Duke Hamilton and Sir Marmaduke Langdale. But apart from these attractions are the grounds of the Preston Nursery and Pleasure Gardens Company. These are approached by handsome entrance gates and a lodge. On either side of the broad carriage drive are specimen trees of the choicest Conifers, evergreens, and deciduous trees and shrubs, and this is terminated by a handsome conservatory of large size, in which are cultivated specimen greenhouse and conservatory plants. The great charm of these grounds is the Dingle, a deep winding ravine finely furnished with large timber trees. A stream of water runs through it, and this is utilised to form cascades at certain distances. Carriage drives and tortuous footpaths play at hide-and-seek among the dense brushwood of the undulating banks, and numerous wild flowers deck the shady glades where joyous youth and sobered age may equally find a retreat from the active and engrossing cares of everyday life.

We cannot but congratulate the Royal Horticultural Society on having secured such a position, and we have every confidence that with the co-operation of the Nursery and Pleasure Gardens Company with Mr. Shuttleworth at their head, the Provincial Show will be a great success. The Show is fixed for the second week in July, 1878, beginning on Tuesday the 9th, and closing on Saturday the 13th.

Preston is the centre of a great industrial population, and of which about seventy thousand reside in the town, and there is frequent railway communication between Blackburn, Wigan, Burnley, Lancaster, and Manchester.

BLACK PRINCE AND KEENS' SEEDLING STRAWBERRIES.

"C. P. P.," page 152, says he has discarded these two Strawberries; for what reasons we are not told. I earnestly hope none will follow his example, at least without proving them to be worthless. What I am afraid of is, that some who do not know Strawberries well may order plants according to his selection, and if they do they would leave out two of the most valuable Strawberries in cultivation. We have several of "C. P. P.'s" elect covering as much again ground as Black Prince, and although the fruit from them have been large none

of them have produced one quart against two of Black Prince throughout the season; and as for Keens' Seedling, I do not know what we should do without it to meet the demand for fruit for preserving. The family are not here in the Strawberry season, and consequently all the fruit is grown for preserving, and I find these two sorts so useful for this purpose that in a year or two there will not be a Strawberry about this place but Black Prince and Keens' Seedling.—A KITCHEN GARDENER.

POTATOES.

FROM present appearances the Potato blight is likely to be very prevalent round Edinburgh. On the 18th, 19th, and 20th of August it rained almost without intermission, and on the 22nd I observed the plague spot on my Potato plot; and like Mr. Fenn I lifted the crop instantaneously, and though not ripe they will keep for seed. On the 26th it rained a good deal, and at night on the 27th it rained freely. The river Tyne here overflowed its banks, which during twelve years I have lived here never occurred before in August. Potatoes in a number of fields in this locality are spotted and they smell very bad. The Oat fields among the cereals are as flat as if they had been rolled, and Wheat and Barley are not ripening kindly, and there will be no harvest here even under the most favourable circumstances for about ten days. Something like seven years ago Oats were cut on a farm here on July 31st. I took a note of it at the time, and named it to the farmer a week ago.

I often wonder why people are so much afraid of rain now affecting the Potato, as there were rainy seasons before the first blight in 1845. I wonder if there is any new element in nature that did not exist up till 1845, or is there any element wanting that was in force before that. These are problems I cannot solve, but I can solve this, that to my certain knowledge this valuable esculent has been treated in a spurious sort of manner. At present I have not time to say my say on such a grave matter as the loss of the Potato crop, but if all is well will make a few remarks about them next week and state facts, which are said to be stubborn things; and possibly my observations may tend to throw some light on a subject of such paramount importance to the well-being of the human family, for who can forget the famine in Ireland in 1846 and 1847, also in the highlands of Scotland and its painful results?—J. ADDISON, *Ormiston, Edinburgh.*

DRUMLANRIG,

THE SEAT OF THE DUKE OF BUCCLEUCH.

TRAVELLERS between Carlisle and Glasgow, on the Glasgow and South-Western Railway, who are inclined to admire anything remarkable as they pass along, will find their observations very richly rewarded between Closeburn and Carron Bridge stations, where the scenery—with its great expanse of mountain, plain, wood, and water—is allowed to be almost unique. Here there is no deficiency of trees or any other feature necessary to complete a truly picturesque landscape, and the country is entirely void of coal pits, public works, and every obnoxious obstruction which so often interfere with scenes of beauty elsewhere. In bold relief amidst this scenery stands Drumlanrig Castle and its princely surroundings. No words can picture the magnificence of this edifice and its connections. The accompanying view of the Castle speaks for itself, and yet with a deficiency which nothing but a personal inspection could remedy. Historical notes and traditional incidents of all that has been done in the past here are plentiful enough and might be interesting to a few; but I refrain from using your columns for any of them, because I am sure the generality of your readers would pass them over to hear of that which is more dear to their hearts and daily calling.

The gardens at Drumlanrig have always stood pre-eminent in the horticultural world, but not always on account of the excellency of the practice there. Many will remember it as a "big place" kept well dressed, and always endowed with much natural beauty. It is all these yet and more, as the excellency of the produce is far superior now to what it was ever seen or thought of years ago. With these imperfect introductory remarks I will begin my way to the famous gardens by the traveller's ordinary route from Thornhill station, and pass through the rural village of Thornhill, where the streets are lined on both sides with Lime trees, and from here to the Castle, a distance of four miles, the road seems a well-kept private drive; but it is not this, as there is no privacy about Drumlanrig. Approach it as you may no

confined wall, locked gate, or inquisitive lodge-keeper obstructs the way. Everything is free and open. To cramp such a place within a boundary wall would deprive it of much of its grandeur, and this I am sure will be felt and seen by all who visit it. But before the Castle is reached one comes upon the kitchen garden and glass houses, which the first glance shows are of no ordinary description. These lie to the right of the road; and directly opposite, on a high grassy bank overlooking the whole, stands Mr. Thomson's house. Going from here the road is crossed, and a flower garden some 4 or 5 acres in extent is entered. This is not the flower garden proper. No; only a little corner chiefly for supplying cut flowers, and is therefore mostly planted with Roses, Carnations, Phloxes, and an excellent collection of herbaceous plants; for be it remembered, that although this is the head quarters of the king of the "summer bedders," the old-fashioned herbaceous plants still find a

genial home here. There is a good extent of lawn grass in this garden, but most of the beds lie close together, and are only separated from each other by 5 or 6 feet wide gravel walks and Box edgings. The west side is bounded by an ornamental Holly hedge, the south by a bower walk covered with old Roses, Honeysuckle, and other fragrant flowers; and to the east is the kitchen garden wall. This wall is very old, but perhaps few would notice this, as the excellent fruit trees do not bear indication of ancient support.

Eight acres are enclosed within the walls. This is conveniently divided into a regular form. The main walks are 10 or 12 feet wide. One of this description goes all round the walls, with the ordinary border between. Two of these walks cross from centre to centre, dividing it into four; and then other two narrower walks run across east and west, which divide it into eight pieces of about an acre each. Box edgings

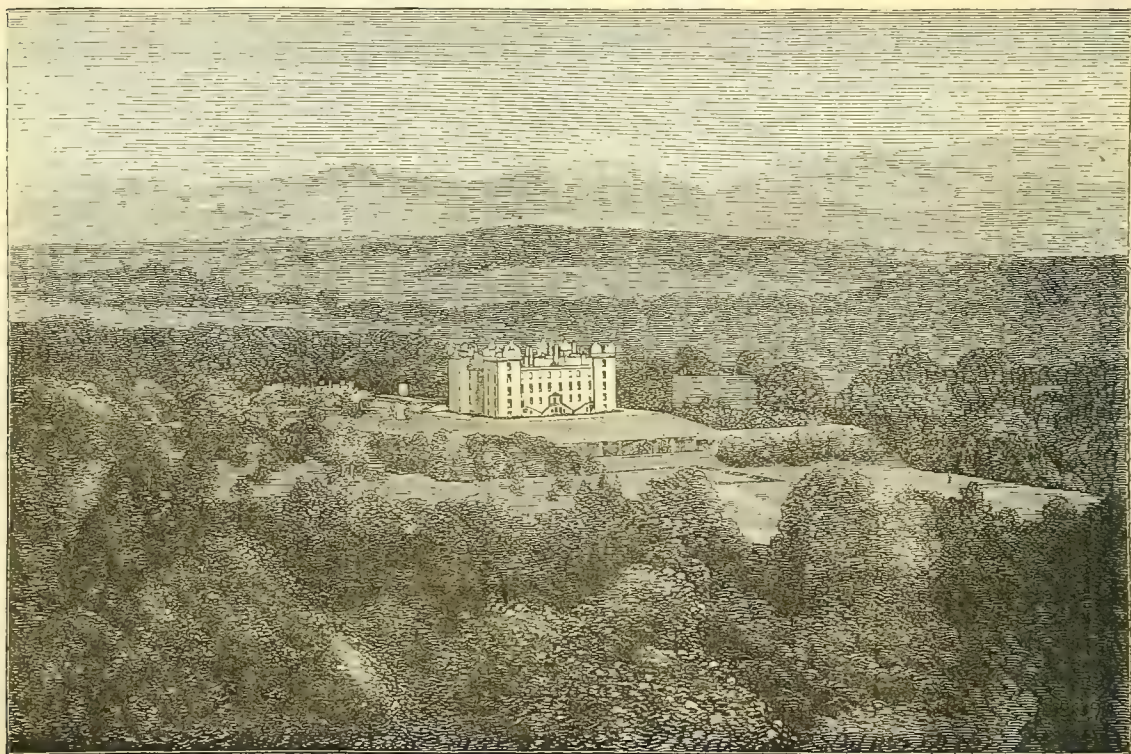


Fig. 48.—DRUMLANRIG CASTLE.

keep the soil from mixing with the gravel. Vegetables are chiefly grown for a supply during August, September, and October. It is hardly necessary to say the produce here is of the first order. Fruit trees line the sides of the walks. Owing to bad weather last autumn and unfavourable weather at blooming time many of the trees are deficient of a full crop, but others are bearing well. Large quarters are devoted to Gooseberries, Currants, Strawberries, and other small fruits, and the crops of these this year have been very good. Belts of ground, nearly as extensive as that enclosed, surround the outside of the wall on the south and east sides for growing vegetables. The south side of the kitchen garden was formerly walled like the rest, and covered with Peaches and Apricots. The first bore very imperfectly, and the latter never at all—not a very profitable covering for such a position; but a few years ago the old wall gave way, and instead of rebuilding it as before the whole was cleared away, and in its place the finest glass house of its kind in the world was erected. It is one lofty span-roofed house, 16 or 18 feet wide and 500 feet long. It is to be exclusively devoted to growing hardy fruits. It was not completed in time this spring to get the trees planted, but it has not been allowed to stand empty. It is now arranged as a flower garden. Pearson's Geraniums are grown to perfection here, many fancy-foliaged plants are mixed with the flowers, baskets filled with drooping plants are suspended from the roof, and the whole effect is far beyond any description. An

Edinburgh nurseryman told me it was worth my while coming a distance of five hundred miles to see this crystal palace, or flower garden under glass, alone, and he was right. The house is substantially built and well heated, and no doubt by-and-by it will produce fruit worthy of itself and its manager.

Leaving this structure we pass through the garden again and enter the front range of glass at the north of the kitchen garden. This is the same length as the new range. The first house is span-roofed, with its ends north and south, a bed in the centre, and shelves round the sides. Some fine specimens of Camellias are planted out in the centre, and the whole is filled with healthy, well-grown, greenhouse plants. We pass from this into a long lean-to house chiefly devoted to exotic plants and Orchids. Next is a range of Peach houses, three in number, and with a little division between comes a long vinery divided into two. Talk of Grape-growing! But if ever Grapes were grown to perfection it is in this place. Hamburghs, Muscats, Gros Colman, Alicante, Duke of Buccleuch, Trebbiano, Buckland Sweetwater, and all the leading varieties of Grapes known are here. Not a spot or blemish are to be found on them. The Vines were planted in 1873, and replaced those destroyed by the Phylloxera. That this pest can be completely stamped out from a place has been clearly and cleverly proved here. The next house is a long exotic plant stove. All the species worth growing which come under this treatment may be seen here in all their luxuriance, and the Nepenthes pro-

bably surpass any that ever have been grown in this country. Most of them are growing amongst green moss in small baskets made from hazel sticks. *N. distillatoria*, which is well adapted for ornamenting rafters, has produced many pitchers that held more than a pint of water. Most of the plants in this house and in many of the others are growing in pots thickly coated with glaze outside. It is thought the plants thrive better in them than the common porous burnt-clay pots, and much labour is saved in washing. Opening out of this last house there is another greenhouse similar in form and position to the first entered. All the houses in this range, with the exception of the Peach houses, are new, and better-constructed houses for convenience in every way it would be impossible to conceive.

Leaving this range we pass out of the kitchen-garden enclosure into a large gravelled yard covered with glass houses

and pits. Entering the first range we come to we find Cucumbers growing in a long pit, with a pathway up the centre and beds on each side. The fruit hanging here reminds one of those representations of new Cucumbers which we sometimes see in advertisements. In the same range, but with the door at the other end, is what formerly was a Melon pit, of the same description as the Cucumber one. This is now planted with Figs trained on trellises, and it is well known that at no place are Figs better grown than at Drumlanrig. They are grown on what may be termed the short-spur system, as the shoots are pinched close in so as to form fruiting buds, in the place of long naked wood often seen on Fig trees. On a line with these there is a large half-span house where Pines are grown. Further along than this there are two low pits for successional Pines, and behind these again on another range there is one more large Pine stove. To the generality of your readers

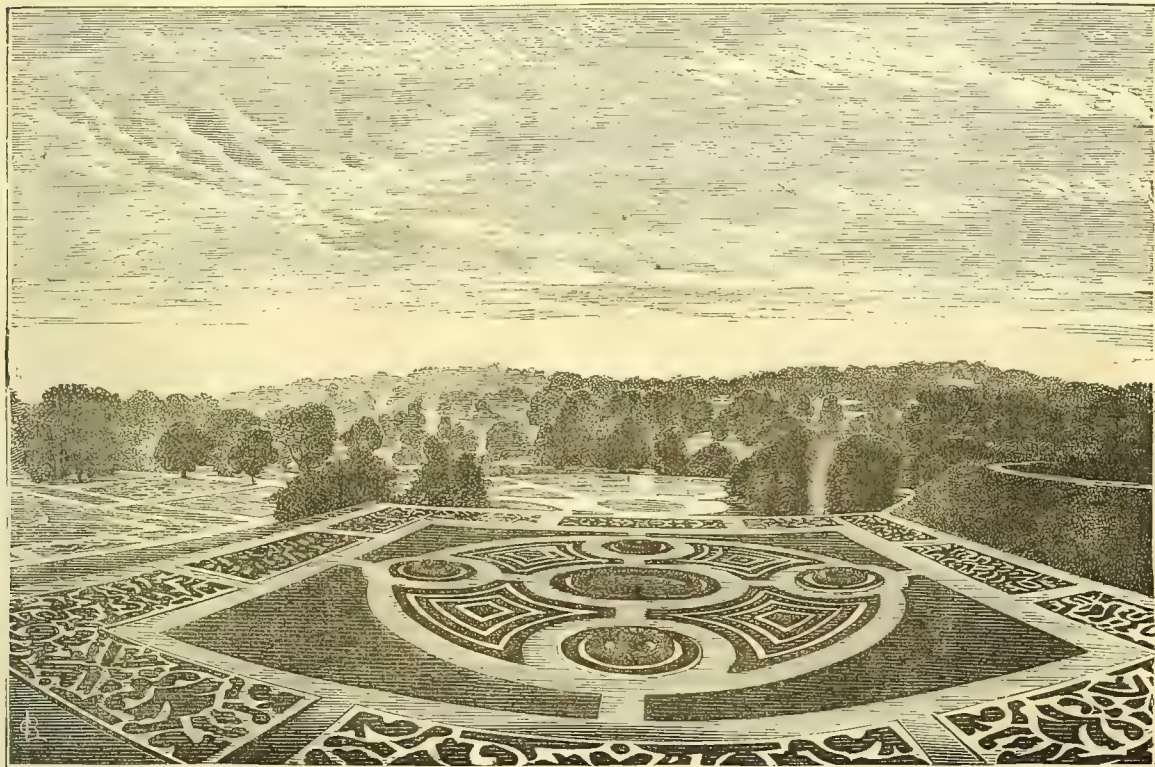


Fig. 44.—WHITE SAND GARDEN AT DRUMLANRIG.

it will not be new to be told that the Pines, suckers, successional, and fruiters in all these houses and one or two others which we have not reached yet, are the very perfection of Pine-growing. Next to the last-named Pine house there is a division of the same size set apart for *Passiflora* culture, a fruit seldom grown for dessert, but much appreciated here. Leaving this range and making for another we pass the young gardeners' lodge, where sixteen or eighteen young men reside. This lodge, or to use the vulgar term "bothy," has been greatly improved lately, and both for inside convenience and outside appearance is an ornament to the place. No person can be more anxious to have his young men comfortable than Mr. Thomson, and his example is worthy of imitation.

The next range (behind the Cucumber and Melon range) is divided into several lengths, which are filled with Vines and Figs. Close behind this there is another range of cool Orchid houses. Space forbids individualising, so I will only say that Orchids from the most common to the most rare are all grown here to a condition which the most celebrated place for these glorious plants never surpassed. Further back still there is another range of houses chiefly devoted to Pines, and not far from here there is about one acre covered with frames for various purposes.

One of the most complete arrangements about the place is the heating of all the houses. Four boilers heat all these

ranges. They are the largest size of Meiklejone's improved cruciform. They lie back from all the houses, and pipes are laid from them to the different ranges, some of the pipes running 200 feet before entering the house. A wooded slope rises on the west side of the garden. There is a large flue goes about half a mile up this wood, and at the end of it there is a tall chimney about 300 feet above the boilers, which draws all the smoke clear away from the place. This is an excellent arrangement, and very different to the smoke, fire, and heating about Drumlanrig when we first saw it; then there would not be much fewer than forty fires, as each house had a fire and chimney to itself. When these were all lighted in the evening the place resembled a small village, the consumption of coal enormous, and the smoke and dirt quite equal to it.

Leaving this, the Castle, which is one mile from the garden, may be reached in two ways—one the same way as we came from Thornhill, the other a private walk leading through the woods which, after passing rustic arbours, bridges over streams, and other adornments, brings us into the lower part of the flower garden. The enclosure under this name, which is surrounded by an elegant wire fence, extends over 50 acres. Every inch of it is kept in the finest order. Some of the ground is much higher than other parts; the Castle crowns all. Next to the house there is a wide flower bed, then a gravel walk over 20 feet in width. This is the arrangement on the south, east,

and west sides; on the north is the carriage entrance, directly opposite to the side most prominent in the engraving. This top walk forms what may be termed the top or first flat. From this a large glass terrace slopes down and finishes at the edge of another very wide long walk. To the east, at the foot of the bank, there is a large flat laid out and planted as an American garden. On the opposite or west side of the Castle there is another flat similar, but it is planted with Stocks, Carnations, and many sweet-scented flowers. Between both of these pieces and the broad walk before mentioned there is a chain border resembling the one at Dalkeith, which is planted with grand effect. The further side of the big walk from the Castle is supported by a wall over 12 feet high. Many kinds of both new and old-fashioned climbers cover this wall. Along the bottom of it there is another narrow walk, and green terraces slope down from this. At the bottom of one of these slopes, and directly facing the Castle, there is a large flat of flower beds surrounded with an elaborate border of Heath. This is named the White Sand Garden, and is well represented in the annexed illustration. The Heath is brought from some of the distant hills seen in the background in the Castle view. It is only allowed to grow about 2 inches high; it is clipped smooth, and the surface resembles green velvet. Between the Heath figures white sand broken fine is laid, which gives the whole a very chaste appearance. Looking down from above on this the effect is truly magnificent. This is much the prettiest, but not the largest design in the garden. To the right of the view is seen a terrace; on the top of this there is another large flat known as the Wilderness, and planted with fine specimens of Hollies, Yews, &c. Further down than the Sand Garden indistinct traces of other beds are seen, but between them and the Sand Garden there is another large terrace. The part at the bottom is very extensive, and is known as The Scrolls, owing to the beds running in the form of scrolls. To the left of the Sand Garden other beds are visible; these are of great extent; another large flat of flower beds is close to these. Dark-foliaged Yews of great age line the bottoms of some of the terraces, and monstrous Chestnut trees shade some parts of the walks. Choice trees are dotted here and there on the grass, and beds of rare Rhododendrons appear as backgrounds to the flower beds; but no one feature predominates over another. Although there are so many flower beds they do not cover anything like the extent of ground there is in grass, and the number of trees, high slopes, and other elevations conceal one mass of beds so much from the others that no sameness, nor too great a glare of colour, occur at one place. Thousands of Violas are used for flower-garden decoration here, as they are found to stand the wet much better than Geraniums.

The views obtained from the highest terrace close to the Castle are splendid. On a clear day objects can be seen quite distinctly down the valley eighteen miles away; and the river, which flows past not far from the Castle, is seen winding down through the green fields and wooded knolls nearly all this distance.

This, be it understood, is a very imperfect sketch of Drumlanrig. To notice everything in a proper way would more than fill a weekly number of the Journal. Names of plants, modes of cultivation, and many other notes of interest I have left untold; but to make up for this deficiency in as short a space as possible let me say that those who go home from Carlisle without seeing Drumlanrig will miss what many good judges consider as being the finest, most complete, and best-managed garden in Britain.—F. R. H. S.

FRUIT PROSPECTS.

I HAVE just taken stock of the wall fruit here (Thorndon Hall, Essex), and find that on about 8000 superficial feet of good wall there are about twelve dozen of Peaches and Nectarines, and about twenty dozen of Pears. Of these Napoleon on the east and Gansel's Bergamot on a south aspect have the largest crop in proportion to the area covered; the latter was protected by a 10-inch coping board, to which I attribute the result. Plums not more than four dozen, three dozen of which are the *Impératrice* on a west aspect. This useful old Plum is seldom seen now, yet it always bears more or less. I wonder it is not more grown. Such a light crop of fruit is but a poor look-out where there is a large family to supply; but all are alike in this locality, and we therefore sympathise with each other, and hope for better things next year. At any rate the trees have a good chance to reinvigorate themselves, and

taking them all together are remarkably healthy. The altitude of this place is 332 above sea level.—J. GADD.

FRENCH ROSE GARDENS.—No. 2.

BOURG-LA-REINE.

THERE is no difficulty in finding the way to these gardens. "J. Margottin Fils, Horticulteur," is conspicuous on the pretty little house amongst its Rose beds even before the train from Paris glides into the station. Starting from the Place d'Enfer, the Sceaux line runs to the little town of Bourg-la-Reine in twenty minutes. This side of Paris is comparatively bleak and uninteresting. Acacias, the tree of the place, edge the line. Huge forts frown on the left, and a tall aqueduct is passed half way that really would not be unworthy of the times of the Romans. Then rows of Briars and Manettis begin to appear. I disembark, and am directed by a board to the garden of M. Margottin père. Again I am unfortunate. He is not at home. A lady under an umbrella painting a yellow Tea Rose from Nature is the principal object in the central pathway of tall Roses fastened to long lines of wire. A young man in blue is deputed to guide me, but though willing enough, neither does he impart nor can I acquire much information. I acknowledge his services in the usual way and retire. I try M. Margottin fils. Here I am more fortunate. I ring at the tall iron gates. A pleasant-looking madame from an upper window bids me enter. She will send for her husband. At last I find myself face to face with the proprietor, a fine specimen of the shrewd and energetic Frenchman of the period. This is the original Jules Margottin, as I presently discover. I suggest that he and the Rose must be about the same age, but he states that his namesake was born in 1855. I do not push my inquiries. Now why is it that they always will speak English to you in France? Can anything be more aggravating than to have an elaborately constructed French sentence answered shortly in your own language? I suppose they like to air their English just as we do our French. I must admit, when pushed back in this way into my own language, I sometimes take the mean advantage of speaking it very fast, which sometimes occasions a relapse on the other side. On the present occasion the conversation was strictly in English.

The rain had been as trying here as elsewhere—for the Roses good, but bad for the Grapes ripening. The low hedges of Vine plants, sometimes *à cordon*, are very pretty. Here there was still a considerable show of Rose bloom, but looking as Hybrid Perpetuals must do everywhere in August. Evidently they had been very fine. Had he any new seedlings? Yes, an especial *nouveauté*, a seedling coming into commerce this autumn. Mr. George Paul had seen it and at once ordered a dozen. Colour bright rose, habit robust, almost as large as Paul Neyron, but keeps its shape, and far freer bloomer, called Boëddien, after a well-known French poet, whom not to know, I had to confess, argues myself unknown. This gave me an opportunity of interceding on behalf of shorter names. We were getting tired in England of such very distinguished titles. Two names are as much as any Rose has a right to; One is still better. I was also shown what is to be an improved Sir Joseph Paxton—a very bright crimson, a free bloomer. M. Margottin considers that we run too much now upon exhibition Roses, that for general garden purposes good old Baronne Prevost is worth more than half the novelties, and will last as a plant more than five times as long. He admitted the high excellence of the Général Jacqueminot strain, Chas. Lefebvre, Camille de Rohan, Louis Van Houtte, &c., but did not think that any of these were very lasting. In this I did not altogether agree with him. He thought Duke of Edinburgh weak in form, though he admitted the high excellence of its colour. He told me that his father had nothing new for this year, probably next year there would be two or three new seedlings. I left him amongst his men all hard at work budding.

His garden is evidently very good, finer Briar stocks could hardly be seen. I was much interested in their mode of budding. Many of the buds inserted were hardly visible. He did not seem to think they were the worse for being dormant. He objects to the use of worsted, and still more of cotton. What he employs is a kind of rush; he could not tell me its English name, only that it grows in water. It has this great advantage, that it breaks with the Briar growth and drops off of itself after the three or four weeks' binding-up, which he seemed to think was quite sufficient. This would not matter for an amateur, but when the budded stocks count by thousands it

must save very much labour. On the whole, though it must be admitted after a limited survey, I infer that our English seedlings are coming to the front and likely to keep there. Comparisons are odious; were they made, our leading growers would certainly not suffer by the side of foreign competitors. What I have seen in England generally has been on a vastly larger scale. M. Margottin informed me he had just taken the two gold medals given by the city of Paris at their this year's show for dwarf and standard pot Roses.—A. C., *Hotel de Louvre*.

STRAWBERRIES ON A LIGHT SOIL.

As my remarks in the Journal the other day were intended to give the result of my experience and to report on the Strawberries mentioned rather than to take up any side on the question of annual renewal, I did not intend to write again; but as one or two persons have expressed a wish that I should add a little to my notes, and the subject is not exhausted, I willingly do so.

In the first place I do not wish to mislead anyone as to the bed of Keens' Seedling. It has only borne such wonderful crops the last two or three years. Before that the crop was always a good one and could be depended upon let the season be what it might; in fact this Strawberry in the position I have it is "at home." Sir J. Paxton, President, La Constante, and others do equally well; they have now been grown four or five years, and look likely to last as many more, but I am not sure about the first. I do not feel bound by any particular time for the renewal of beds, and only do so when they cease to be profitable. "W. S. P." speaks of my method as being a rough-and-ready one. I really was not aware of it. I am desirous of following the best-known method, and I do not think I am far from the mark on my own ground. I thought of trying a few experiments with guano and soot this year, but the weather in June was too dry, so I deferred it to another year.

When I first began growing Strawberries I did not succeed as well as I do now, and was under the impression that they required more frequent renewal than I have since found to be the case, but the fact was I had not the most suitable sorts, and was not sufficiently careful about removing the weeds in time. There is no fruit crop which is so soon injured by the least neglect in that respect, or so well repays the necessary care and attention. The soil now is sufficiently moist, and I am having the beds trimmed up and cutting off all the leaves except five or six at the top, and it is a matter of indifference whether they are all cut off. On several occasions I have had a portion left so and could observe no difference in the following crop; they will be sure to throw-up plenty of new leaves before the winter. The plants will be manured with some well-decayed hotbed manure before Christmas, but I do not like the crowns of the plants covered. If the manuring is delayed until after Christmas sometimes a long period of dry weather sets in, and the full benefit of it is not obtained.

Mr. Luckhurst goes a little too far in his opening statement about Strawberries succeeding everywhere. Mr. Rivers, a good authority, says that Eliza does not thrive except on a chalky soil; and Mr. Darwin says, "That splendid fruit the British Queen can be cultivated in few places either in England or France, but this apparently depends more on the nature of the soil than the climate." A famous gardener (Mr. D. Beaton) says that "no mortal could grow the British Queen at Shrubland Park unless the whole nature of the soil was altered." At the same time some sorts are so hardy as to thrive almost anywhere.

Anyone desirous of making a selection for planting could not possibly find a better guide than the report of the Strawberry election for 1872—at least with regard to the older varieties. I have just procured Lucas and Unzer Fritz, the latter highly recommended by Mr. Ferdinand Gloede, and perhaps another day I may report on their behaviour. I am very much pleased with the remarks of "C. P. P.," who is evidently an experienced grower, although I do not follow the same method of cultivation.—AMATEUR, Cirencester.

THE COLORADO BEETLE.

In an article on this unluckily famous insect which appears in the September number of "Science Gossip," and which is from the pen of Mr. Rye, deservedly reputed one of our ablest entomologists, it is recommended in the event of its appear-

ing here to isolate the patches infected by trenches, and then cover the surface with sawdust soaked in benzoyl, which is to be set on fire. After this the land is to be ploughed, again saturated with the oil, and the surface again burnt." If the beetle could survive that it must have indeed a charmed life. But in the event of its having got too far ahead to admit of this effective process, Mr. Rye advises a systematic and unwearied search for the imagos in spring, before the eggs are deposited. It is encouraging to find that this authority is inclined to pronounce against the probability of the beetle's effecting a settlement in Britain.—J. R. S. C.

BATTERSEA PARK.

For varied and attractive scenes produced by its formation, for the diversified character of its ornamentation, and for its excellent keeping, Battersea Park has always been renowned. Every year since its establishment it has been beautiful, but never has it been more greatly and justly admired than during the present season. Its broad, smooth, capital walks, the pleasing seclusion of its quiet nooks and shady groves, its rock and water scenes, its Fern dells and alpine touches, its tropical aspect and the artistic decoration of the beds, combine to render this picturesque place of public resort increasingly popular.

Let us enter the Park by the western gate and note the character of the decorations. Mixed borders are not generally considered as being particularly attractive during the late summer; they are more frequently referred to under the convenient term of "interesting"—a term which may have a wonderful amount of meaning or no meaning at all, according to the fancy of the reader; but the mixed borders here are neither dull nor tame, but are lively and effective as such borders should be. Their effect is probably enhanced by their boldly curving nature and their front marginal lines of golden *Stellaria*, silvery *Gnaphalium*, and blue *Lobelia*. They are brightened also by the introduction of bold masses of the best of the bedding Geraniums. But what renders them especially attractive now are the rows of *Anemone japonica*, and especially its white variety *alba* (syn. *Honorine Jobert*), the flowers of which are shown to great advantage by the background of shrubs and bright scarlet *Dahlias*. *Heliotropes* in profusion impart perfume to these gay mixed borders. Crossing the carriage drive the entrance avenue becomes restricted. On both sides of it are rows of the finest massing *Geranium* in the Park, *Waltham Seedling*, and *Calceolarias*; and especially noticeable bright yet elegant rows of *Pentstemons*, behind which, and partly amongst the shrubs, are fine clumps of *Liliums*, apparently *L. lancifolium*, in variety, with numerous flowers on the eve of expanding.

A short walk across a "bit of real park" and we arrive at the decorations proper. A twisting walk less than 50 yards in length leads to the subtropical enclosure. But short as it is, this walk affords attractions on either hand—a bold dell-like recess formed amongst the shrubs, the turf smooth and clean, the beds of *Cannas* imposing, the overarching foliage of the Tree of Heaven refreshing, the *Geranium* beds affording brightness—Mrs. Turner, lavender pink, being especially fine—and isolated specimens of *Palms* and *Musas*, all commanding admiration.

We are now in the enclosure—an irregularly oval-shaped, undulated, "treeified" lawn on the one side, and high banks of dense foliage on the other, with a narrow strip of lawn next the circular walk. Towering *Cordylines*, rich masses of "tropicals," specimen *Palms*, informal mixed beds, very formal carpet beds, and a few real flower beds constitute the attractions here. A bed of the Coral Plant (*Erythrina*) interspersed with golden *Abutilon* and edged with variegated *Mesembryanthemum* fronts the entrance into the enclosure; it is a raised bed, as are the two mixed beds on either side of it. *Jacaranda mimosaefolia*, here most elegant, *Acacia lophantha*, and such like plants, are supporting mediums for *Thunbergia alata* in variety. Towards the margin a broad silver-leaved *Artemisia* is associated with *Abutilons* and tuberous *Begonias*, the beds being edged with *Alternantheras* and *Mesembryanthemum cordifolium variegatum*. These are charming beds, the *Begonias* in them having a rich yet graceful appearance. Two large S-shaped carpet beds attract the notice of visitors. Being partly under the shade of trees the object has been to render them bright and cheerful. The circular ends of the beds are planted with Golden Bicolor *Geraniums*, the remaining portion of the beds being planted

with twisted panels of Golden Feather, *Leucophyton*, and *Alternantheras*, and edged with *Euonymus radicans variegata*. They are effective, and suitable for the position they occupy. A contiguous bed in striking contrast is a circular one planted with specimen *Buonapartea* in a carpet of golden *Stellaria*. It is both novel and attractive. Besides the *Cannas* some other noticeable beds of stately plants are splendid *Wigandias* and *Aralias*, edged with *Petunias* and *Gazanias*; *Acacia lophantha* and variegated Maize, edged with *Geraniums* and *Salvia argentea*; *Polymnia grandis*, with a charming edging of *Convolvulus mauritanicus*; Variegated *Yuccas*, mixed with *Lantanas* and edged with *Geraniums* and large "rosettes" of *Sempervivums*; also *Ricinus* and *Lantanas*, *Polymnias* and *Heliotropes*, *Grevilleas* and *Vitis heterophylla variegata*, *India-rubber Plants*, and a ground of *Iresine Lindeni* and silvery *Artemisia*. Such are a few of the large beds, to which the same epithets apply—they are luxuriant, attractive, excellent.

Some oblong and round carpet beds in this portion of the Park are quiet in colour, clear in design, and chaste in appearance. One long bed, wider at one end than the other, contains a row of kite-shaped panels of *Alternantheras*, diminishing in size from the wide to the small end of the bed. The panels are banded with golden *Stellaria* and *Cerastium*, and the bed is also margined with the *Stellaria* and *Echeveria*. The angular space between the centre panels and the margin is planted with small *Kleinias* and *Sedum glaucum*. Another bed is of the same character, the panels, however, being filled with small plants of *Echeveria secunda glauca* instead of the *Kleinia*. Two round beds are also noticeable. One of them has a flowing scroll-like tracery of *Leucophyton* and Golden Feather, with panels of *Alternanthera versicolor grandis* and *A. amena*, a groundwork of the now familiar and popular *Mentha*, the centre of the bed and also the margin being planted with *Sedum acre elegans*—a very pleasing bed. Another distinct bed is planted with four pear-shaped panels of *Alternanthera magnifica*, banded with Golden Feather and edged the same as the bed last noted; the interspaces between the *Sedum* and the panels are filled with *Mentha*. A large bed, chiefly planted with the Golden Elder, and another with *Brugmansias*, are in bold contrast with the dainty carpet beds. The arrangements noticed, with a few *Geranium* beds, specimen plants of Pampas Grass, Pomegranates and *Yuccas*, render the decorations of this portion of the Park fully equal, if not superior, to those of any former year.

Passing to that portion of the Park where the picturesque miniature lakes and islands are the chief attractions a few points by the way demand notice. The first is "Fern Hollow." The turf in this has been newly laid, and the specimens of Tree Ferns, Cycade, *Dracenas*, including D. Shepherdii; Palms, *Pritchardia pacifica* being especially fine; a plant of *Pothos acanlis*, with splendid foliage; Stag's-horn Ferns, &c., are arranged with admirable taste. It is a charming "bit," but not more so than the long vista of Ferns, &c., on the opposite side of the walk. The turf here has also been renovated, and the whole "forest scene" greatly improved. At the end of the vista, which is about 50 yards long, is a plant of *Musa ensete*, the irregular sides of the narrow shady grove being decorated with Tree Ferns, *Encephalartos*, Palms, and *Pandanus*. Immediately beyond this point is one of the nooks or grassy recesses in the shrubs which render this Park so delightful. At the end of the nook, which is flanked with fine beds of *Cannas* edged with *Funkias*, is a magnificent plant of *Musa ensete*. There is no more effective and really artistic example of decoration in the Park than this is; there is not much of it, but what there is is excellent, perhaps because so little effort is apparent for producing an "effect."

Another group of carpet beds, two large oblongs and two rounds, arrest attention. They are real carpet beds—that is, the soil has not been raised in one part and elevated in another to produce an irregular surface. The oblongs are very bright, such as a great number of visitors admire. Each bed contains circular patches of *Leucophyton Brownii* surrounded with chains of Golden Feather, *Alternanthera amena*, and *Mentha*. The extreme edge and also the angles between the brighter colours are planted with *Sedum acre elegans*. The large round beds have a star-like pattern of variegated *Geraniums* as the central design, the angles being planted with *Alternantheras* and *Echeverias*. These beds are edged with *Mesembryanthemum cordifolium variegatum*. The decorations in this division of the Park are very effective. Proceeding onwards, "Alpine Point" is reached with its green valleys of *Pyrethrum Tchihatchewi*, a name which a corre-

spondent of the Journal once observed he could not pronounce without sneezing, and *Leptenella scariosa*, hillsides clothed with Cactuses, Aloes, and alpine plants, the higher mounds being planted with *Antennaria tomentosa* to resemble snow-capped mountains. On the opposite side is a contrasting bed of *Ricinus Gibsoni*; another fine tropical bed having an edging of *Geranium anemonifolium*, the large green palmate foliage of which is distinct and attractive. Passing by Ivy-clad banks a pause is made to admire a bright nook planted semicircularly with the Golden Catalpa and *Clematis Jackmanni*, with the yellow Canary Creeper associated with the purple of the *Clematis* on the one hand and a fine bed of *Fuchsias* on the other. Large plants of *Fuchsias* in shaded places grow and flower well, and afford an acceptable change from more gay and formal plants. The bed of them here is admired by all visitors.

There are yet the rockery to admire with its trickling cascades—a long, cool, shady walk, the banks being covered with roots and Ferns, and a bright example of flower and foliage grouping on the side near the Thames—the refreshment garden. The long semicircular border here is extremely gay with groups of *Geraniums*, *Iresines*, and divisional lines of Golden Feather, and a flowing arrangement of *Lobelias*, *Alternantheras*, and *Sedums*. The corners of the borders are treated in a particularly artistic manner, the ground being curved and raised to represent some rich cornice work. The same mode of decoration occurs in other parts of the border. The central beds on the two narrow lawns are planted chiefly with sweet flowers. The carpet beds here—three round beds with a connecting chain, represent what many consider as being the best, as it is the most soft in appearance, carpet bedding in the Park. The ground in the central circle is raised while the end beds are hollowed-out like saucers. The effect is novel, and the concentric lines of *Mesembryanthemum* and *Leucophyton* have a chaste and admirable effect. Intricate patterns are not the most pleasing, and mixing too many varieties in the same bed is not the most effective mode of decoration, as the excellent association of these two plants only in these circular beds clearly proves.

Such is Battersea Park in 1877. Once more the public are more than satisfied, and Mr. Rogers's reputation is well sustained. On leaving the Park a visitor observed, that "if the people have such delightful places provided for them, what must the Queen have?" I will try to tell him.—J. W.

GRAPES SHANKING.

CAN any of the numerous practical gardeners who read the *Journal of Horticulture* state the reason why Grapes grown on the open wall never shank? I simply ask this question to elicit the opinions of practical men. Why is this? I have seen Muscat of Alexandria, Grizzly Frontignan, Royal Muscadine, West's St. Peter's, Black Prince, and Black Hamburgh at various places in Sussex, Surrey, and Hampshire arrive at a sufficient state of ripeness, and have not a trace of shanking on a single bunch; yet in some instances I know the roots were not in the most favourable places to insure success.

My idea is, that the temperature of the night is so much lower than that of the day, that the plant has so far recruited its energies and taken up a stock of food for the forthcoming day. The temperature on a south wall at midday is frequently 130° to 140°, and at night down to 55°, or as low as 50° at times. This is a great range, but it is no more than an ordinary Cabbage or Lettuce endures in the open ground. The low night temperature enables the foliage to be completely charged with food, which has to be digested by the heat and light of the day.—INQUIRER.

OUR BORDER FLOWERS—LEOPARD'S-BANE.

SMALL as are the representatives of the family of Leopard's-bane they are, with the exception of two or three, anything but common. The name of *Doronicum* has been altered from the Arabic name *Doronigi*, and the plant was said to have been employed for the purpose of destroying wild animals, hence its common appellation. In our day and country we are happily free from tigers and the like marauders, yet *Leopard's-bane* deserve more attention than they are at present receiving. Common in appearance they may be, but some of them in half-wild places and shady damp banksides afford us a grand display in the spring and early summer months. When established, all they require is to be left alone; they soon increase

themselves by spreading of the root and seed. To see them in their full beauty they must be seen in quantity. They are not particular as to soil, but in such situations as I have named they are quite at home. They appear to derive much support from decayed leaves which cover them in the autumn. I like to have a patch in the border where variety is required.

There is a beautiful white variety, *Doronicum altaicum*, which is worth looking after; it requires a moderately dry situation and rich light soil. *Doronicum caucasicum* is perhaps the most commonly met with, but is not nearly so common as it deserves to be. As a spring garden plant it is very desirable. For lines, beds, and patches in my estimation it ranks very high. When established in large patches in the early spring it becomes one of the gayest of the flowers of the garden, often giving us flowers also in the autumn and winter. In the spring it sometimes requires protection. Any light material placed over it, or a few spruce branches stuck round it, will ward off the severity of the frost. Slugs are fond of hiding in the crowns of the plants, and if not destroyed they do considerable injury to the leaves and flowers. *D. austriacum*, *D. scorpioides*, *D. Columnæ*, *D. macrophyllum*, and *D. cordifolium* are all desirable border flowers, requiring little attention when once established. They are readily increased by division in the autumn and spring when growth is commencing.—*VERITAS*.

NOTES AND GLEANINGS.

We are informed that the date of the Royal Horticultural Society's PROVINCIAL SHOW AT PRESTON in 1878 will be from Tuesday, July 9th, until Saturday, July 13th, both days inclusive, and that a Schedule Committee has been appointed to draw up a schedule.

Now that England has become so great in the culture of the Rose it behoves that in speaking of our favourite flower we should be correct in our language and literature on the subject. Why do we speak of Provence Roses? There are none such. The *Provins* Rose takes its name from *Provins* in the department of Seine-et-Marne, where the great Rose-culture of France is carried on, and not from Provence, one of the ancient provinces of France. Will "WYLD SAVAGE" take the hint and introduce a more correct orthography?

UNUSUALLY cold nights prevailed during the close of August and beginning of September. A Buckinghamshire correspondent informs us that the grass was crisped with frost on the morning of the 24th ult.: we have heard also that the thermometer has been down to the freezing point in the neighbourhood of London. Low night temperature and bright days are the best possible antidote of the Potato disease. If heat with moisture prevails nothing can prevent the destructive progress of the ubiquitous murrain.

THAT excellent Grapes may be grown without elaborate border preparation many examples prove. A very good one came under our notice the other day near Penge railway station. Mr. Bailey, who had been a successful gentleman's gardener for many years, commenced Grape-growing on his own account a few years ago. Although his soil was a strong clay he did not trouble to obtain turf, bones, or concrete. He simply made a narrow ridge on the surface of the garden (not excavating) of the loamy clay mixed freely with stable manure, and in this planted his Vines, adding to the ridge as they increased in size. The Vines have for some years produced wonderfully heavy crops and no shanked berries. To borders above ground and rich surface-dressings Mr. Bailey attributes his success. Cucumbers are grown in the same manner, hillocks of soil being placed on the floor inside the house, and heavy crops are produced in the clay and manure.

FEW flower garden plants which are readily increased from seed are more varied in colour, rich, and attractive than *DIANTHUSES* Heddeiwigii, *Diadematus laciniatus*, &c., in good varieties. The seed of these is generally sown in spring, but much more satisfactory plants are produced if it is sown in August or early in September, wintering the plants in cold frames. The plants thus managed are more luxuriant, flower earlier, and are altogether more satisfactory than are plants raised in spring. The great German growers, who almost supply the world with seed of these beautiful *Dianthus*es, raise nearly all their plants in the autumn.

AN amateur cultivator, who grows a considerable number of Peaches and Nectarines on glass-covered walls, states that the best Peach is *Grosse Mignonne* and the best Nectarine *Pitmaston Orange*, and if only two trees are required by

any cultivators he recommends those varieties as being good growers and bearers, the fruit being of full average size, handsome appearance, and of excellent quality.

CANNAS are now commencing flowering in the London parks, and will be very ornamental during the present month. One of the finest varieties appears to be *C. Rendatleri*, the flowers being large and of a bright orange colour. A fine bed of it may be seen in Battersea Park by the side of the walk leading from "Alpine Point" to the rockery.

MR. WILLS'S NURSERY at Anerley, under Mr. Bause's management, is always worthy of inspection. Not only are there many thousands of *Dracanas* in wonderful variety and condition, but the ease and extent to which Ferns for decorative purposes are grown is astonishing. *Adiantums* are raised from spores with about as much certainty as Mustard and Cress from seed. There are three thousand plants of *Adiantum gracillimum*; and as to such popular sorts as *A. cuneatum*, *A. seutum*, *A. trapæziforme*, more than a thousand plants a-week, often as many in one day, are required for decorative purposes. On one of the shelves are some hundreds of seedlings of *Tillandsia zebrina*, and in that position the rich marblings of the lower sides of the leaves are very conspicuous; and on another shelf are some thousands of *Anthurium Scherzerianum* in thimble and thumb pots. Another house is almost entirely filled, and attractive it is, with the fine variegated plant *Yucca filamentosa variegata*, in the increase of which Mr. Bause is extremely successful. The outside portion of the nursery is almost wholly planted with Roses for affording cut blooms, of which ten to twelve thousand per week are required during the London decorative season. The Ferns (grown in loam) and fine-foliaged plants are in superb health, which is attributed in a great measure to the "Elixir," or buffalo-horn manure, which Mr. Bause uses to almost everything with the best results. The most valuable roof plants are *Stephanotis*, *Lapageria*, and *Jasminum grandiflorum*.

EVERY spring well-grown plants in 5-inch pots of the charming Everlasting *RHODANTHE MANGLESII* are amongst the most popular plants in Covent Garden Market. In order to produce such plants seed should be sown at the present time in a compost of peat and loam. When large enough the seedlings should be pricked an inch apart in small pots for passing the winter. When established a light shelf in the greenhouse is a suitable place for them. They require to be carefully watered at all times, never wetting the foliage. Shift them into their flowering pots in the spring; and if they are well managed, plants will be produced which few can fail to admire.

HEAT, which is a prolific source of RED SPIDER, is also, says an "OLD MELON-GROWER," an antidote of that pest. Melons, and indeed many plants, he remarks, will endure heat that is fatal to red spider if much moisture at the same time accompanies the heat. However contrary to established notions the matter may seem, our correspondent states that Melons, and plants generally which are grown in a very high temperature with much moisture, are rarely infested with either red spider or thrips. He asks those whose Melons are cut and the foliage infested to close the house or frame with much moisture, and allow the temperature to rise to and remain at 120° for an hour or two, when the plants will be found to have sustained little if any injury, while most of the red spider will be killed.

CLEODENDRON FALLAX is well known as one of the most brilliant and stately of decorative plants, but it is not so generally known that the best mode of raising a stock of it is by sowing seed and treating it as an annual. A fine example of this mode of treatment may be seen at the Crystal Palace, where a number of dwarf sturdy plants not much exceeding 6 inches high are just showing their flower spikes. They were raised from seed sown in the spring of this year. It would be equally satisfactory, probably, to treat the plant as a biennial, sowing the seed at the present time.

THE merit of being the first introducer of *FERNIS* belongs, says Mr. John Smith in his volume on "*Ferns, British and Foreign*," to Mr. John Tradescant the younger, who in early life made a voyage to Virginia; and it is recorded in Parkinson's "*Theatrum Botanicum*," published in 1640, that upon his return from that country in 1628 he brought with him amongst other rare plants the *Cystopteris bulbifera* and *Adiantum pedatum*. These, therefore, remarks Mr. Smith, must be regarded as the nucleus of our present large collections.

"RHODODENDRONS," writes one who has had much experience on the subject, "are generally considered to be the

only shrubs that hares and rabbits will not eat. I find they do nibble the leaves sometimes, especially of newly-planted shrubs, but not to a damaging extent. *Andromeda floribunda* they do not taste, and *Kalmia latifolia* is free from their depredations—in fact, most peat earth or American plants are not liked by them, none of the Heath blooms or *Erica* family being at all relished by those animals.”

— A SPLENDID collection of *CHRYSANTHEMUMS* is being grown in pots in Victoria Park. There are thousands of plants in the finest possible condition, and which will produce a rich display during the autumn months.

— THAT many of our common wild plants become highly attractive under good cultivation many examples have proved, and not many of them more conclusively than the common Harebell, *CAMPANULA ROTUNDIFOLIA*. This plant, which only grows a few inches high in dry places, becomes when grown in pots both stately and elegant, the plants becoming bushes 2 feet high and through, laden with thousands of bells and continuing attractive for many weeks.

— MR. HARDING desires that *SEDUM FABARIA* (SPECTABILE) be added to the list of herbaceous decorative plants that he recommended last week. He describes this *Sedum* as one of the best of hardy border plants, and which will well repay for generous cultivation. We concur; it is valuable alike for pots or borders when it is really cultivated, and not left to exist in a semi-starved state in which it is too often seen.

— A VERY large and successful grower of STRAWBERRIES, one who has tested all the varieties in cultivation, states that two varieties recently recommended by Mr. Luckhurst are very capricious, only doing well in certain seasons and places—namely, *Exquisite* and *Traveller*, and that these cannot be classed as useful and reliable varieties.

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

HARDY FRUIT GARDEN.

WE recently alluded to the gathering and storing of Apples and Pears, but we have not been able to do much in the way of gathering any fruit since that time. We have a fair crop of Apples, but owing to the dry weather the maggot has spoiled nearly half of them. Further, during the last ten days rain and high winds have shaken many down from the trees. Only the earliest sorts are ready to be gathered, and we can only hope that a spell of better weather will allow the late fruit to remain on the trees until it is ripe. We shall only incur loss by gathering it before the pips are brown. It has been necessary to purchase a few trees this year, and we have already selected them to be sent home as soon as the leaves fall. Those who intend to purchase trees should see to it at once, and it is very advisable to visit the nursery and select them. The reason for this is obvious. If an order is sent the nurseryman will select the best trees he has, no doubt; but of some sorts there may be only inferior trees in stock, and when this is the case it is better to see them, and you can use your own discretion whether it is better to take an inferior tree or select another variety, of which there may be good plants in stock, in preference. The ground ought to be prepared at once for the reception of the trees. If the intention is to plant a border, or quarter, the ground should be trenched at least two spits deep, working in at the same time some decayed manure if the ground is not already sufficiently rich. It is much better to work the ground now than when it is saturated with water; also when planting the trees it is a great advantage to them if some turfy loam can be placed round the roots. It is not always possible to obtain good decayed turfy loam, but where it can be had in quantity there is nothing equal to it for placing round and amongst the roots, and we would use a barrowload for each tree. Some persons dig out the holes and place in the loam before the trees are ready; but we prefer to keep the loam in a dry place, so that if the trees come home, as is not unlikely, when the ground is saturated, they may be planted at once. It is a waste of time, and the trees are not benefited if they are laid-in until a more convenient season.

The growths of Raspberries have been thinned-out, allowing only those to remain that will be required to fruit next season; for this purpose the strongest are selected, and they are fastened loosely to the sticks to prevent their snapping at the base. The rains have just come at the right time for the Strawberry plants recently put out, and they grow apace, being free from red spider. As soon as the ground is a little dry we shall work the Dutch hoe amongst the plants to destroy weeds and prevent their growth.

PINES.

With the cooler atmosphere accompanying the rains it has been necessary to apply artificial heat. In the house where

plants have nearly reached maturity a drier atmosphere is required with as much air as possible, and the water must not be too freely applied to the roots. The plants should be allowed to become dry at the roots before applying any, and then sufficient should be given to saturate the soil to the bottom. Succession plants must not be neglected; very often it is difficult to find room for them at the time of potting the suckers, and they are crowded together into some out-of-the-way corners. Of course where this is really unavoidable the best must be made of the circumstances; but unless the suckers are well treated from the time they are potted little good can be expected from them. We always plunge the suckers in a bottom heat of at least 90°; they are not far from the glass, and are never overcrowded. Pines are seldom attacked by scale or any other insect pests if they are kept in a healthy growing condition throughout the period of their existence. The plants on which are ripening fruit should be fully exposed to light, and the temperature at night should not fall below 65°. No water should be kept in the evaporating troughs in the house, and ventilate as much as possible.

PEACH HOUSE AND ORCHARD HOUSE.

In previous numbers full directions have been given as to the treatment Peach and Nectarine trees should receive after the fruit has been gathered. Where the fruit has not yet been gathered it is desirable to be very careful with it. Our own belief is that it is not desirable to allow it to remain on until it is almost ready to drop, but to gather it carefully when it can be gathered from the trees without putting so much pressure upon it as will injure the fruit. Flat-bottomed baskets should be used in which to carry away the fruit, and it ought not to be removed from those baskets until it is wanted for use. In the bottom of the baskets place first a sheet of cotton wadding and over that a double sheet of tissue paper. In cool weather fruit carefully gathered in this way will keep for a week or ten days, at least some of the varieties will—viz., those with firm flesh; the yellow-fleshed sort *Exquisite* keeps in good condition after being gathered as long as most of the sorts. We are now gathering the midsummer sorts in the orchard house. Peaches are very scarce; owing to the want of artificial heat in the orchard house when the trees were in bloom they did not set well. Nectarines are rather better, and of the yellow-fleshed sorts, especially *Pine Apple*, there is an abundant crop. We have reported all the trees that it is intended to pot this year. This work is best done as soon as the fruit is gathered and when the trees are in full leaf. When this is the case they soon form fresh roots and become well established before the leaves drop. We have frequently taken the trees out of their pots and cut a slice an inch all round from the compact ball of roots, and then returned the tree into a pot the same size in which it had been before. It is necessary to keep the leaves damp with the syringe for a day or two until fresh rootlets are formed.

GREENHOUSE AND CONSERVATORY.

We have potted all the hardwooded plants that require it, and, if the weather continues favourable, they will yet make sufficient roots to become established before the winter. A very large proportion of Cape and New Holland plants require peat or peat and a little loam added to it, and except for such as *Aphelexis* we do not use leaf soil or manure. If the loam and peat is the fibrous top spit of an old pasture it will be quite rich enough without any addition, and it must be understood that only the best fibrous peat from an upland is adapted to grow such plants. Spongy peat, or what is termed bog earth, will not produce satisfactory results. The different species and varieties of *Statice* should not be omitted from any collection of greenhouse plants. *S. profusa* is the best of them, and where only one can be grown this must be it. *Kalosanthes*, too, with the rich crimson and rose-coloured trusses of flowers have a charming effect in collections, and we find that both these and *Statice* do best when potted in rich turfy loam, using a liberal proportion of sand and plenty of clean potsherds for drainage. This must be kept perfect too by placing some turfy loam over it, a precaution that must on no account be neglected, as any sourness in the soil through the water not escaping freely is productive of disastrous results.

Stage *Pelargoniums* have been repotted. This ought always to be done when the growths are fairly started, as if it is left too long the shoots flag and the plant is checked a little in its growth. The potting material is turfy loam five parts, one part decayed manure, one leaf soil, and sufficient silver sand to keep the compost open. The old roots are considerably reduced, and the plants are returned to clean pots not larger than they have been in before, and the balls may even be so much reduced that the plants will go into pots a size smaller. Indeed the large exhibition plants one sees at the metropolitan exhibitions are always treated in that manner. They are exhibited in pots 8½ inches diameter, and it is necessary to reduce the ball of roots sufficiently to admit of their being potted into a 7-inch pot.

The *Cyclamens* are now starting into growth, as also are the different varieties of *Primula amena*. Probably before this appears in print they will be shaken-out of the pots, the balls

will be reduced, and the plants repotted into clean pots. It is a good plan to sow a few seeds of *Cyclamen* annually, and to throw away the large plants which have deteriorated. Many of the plants continue to increase in size, and annually throw up large numbers of fine flowers, others as the corms increase in size fall off in the production of both leaves and flowers. The *Cyclamen* is one of the easiest managed of greenhouse plants, and few others give such good results for the amount of care bestowed upon them. The *Cyclamen* may be sown at any time, but we have had the best plants by sowing about the last week in January or the first in February. As soon as the seedlings can be potted-off we pot one in the centre of a thumb-pot in light soil. When the plants have made some progress they are shifted into small 60's, and onwards into their flowering pots, never permitting them to become pot-bound before repotting them. Place them on shelves near the glass in a temperature of not less than 55° at night, and by the following Christmas each plant will have an average of twenty-four fine flowers on it. After the plants are established they require the shelter of cold frames only in the summer, and a greenhouse temperature in the winter.

Cinerarias have also been potted into their blooming pots. It is necessary to pot them at this time for early blooming, and we find that the flowers are the most valuable when we can have them from Christmas onwards. We are careful not to allow a single trace of green fly or thrips to remain upon them. They require to be potted in the same compost as *Pelargoniums*.

We are now "setting" the blooms on *Chrysanthemums*. Those who are not acquainted with this should look at the strong leading growths at the point. They will find a flower bud with three or four growths starting from each side. If these growths are stopped the buds will swell; if they are allowed to grow the bud will probably perish.—J. DOUGLAS.

TRADE CATALOGUES RECEIVED.

James Carter & Co., High Holborn, London, W.C.—*Catalogue of Fresh Imported Dutch Flower Roots, &c.*

B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway London, N.—Part 1, *General Bulb Catalogue*; Part 2, *Fluit Trees, New Plants, and Roses.*

James W. Mackey, 40, Westmoreland Street, Dublin.—*Catalogue of Dutch Flower Roots, &c.*

Ed. Webb & Sons, Wordsley Nurseries, Stourbridge.—*Autumn Catalogue of Dutch Bulbs and Garden Requisites.*

Louis Van Houtte, The Royal Nursery, Ghent, Belgium.—*Catalogue of Camellias, Azaleas, Rhododendrons, Lilies, &c.*

Dickson & Robinson, 12, Old Millgate, Manchester.—*Catalogue of Dutch Flowering Bulbs, &c.*

John Laing & Co., Stanstead Park and Rutland Park Nurseries, Forest Hill, London, S.E.—*Catalogue of Bulbous-rooted Plants, Roses, Spring-flowering Plants, Vines, &c.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

HISTORY OF THE ROSE (T. H. G.).—It was not a natural Rose, but an artificial Rose made of gold, that Julius II. sent to Henry VIII.

BLACK ON LEAVES (S. H.).—It is a fungus, the mixture will remove it as well as the scale.

VARIETIES (X. Y. Z.).—If the Committee really mean varieties, then three distinct varieties of *Croton* would be admissible, but you had better ask the Secretary. Species might be intended.

PEAR LEAVES BLOTCHED (J. B.).—The brown blotches are caused by the grubs of the Pear-tree Blister Moth. A description and drawing of the insect is in No. 476 of our Journal.

EUCALYPTUS GLOBULUS (J. Clode).—It will endure the winter planted as you state.

ORANGE FUNGUS ON ROSES (W. A.).—No one could tell you whence the spores which cause it come from. Your only remedy is to dust the leaves and the surface of the soil with flowers of sulphur.

PEACH TREE UNHEALTHY (D. H.).—The shoot sent is much infested with mildew. All growths similarly leafless and decayed should be cut-out at once, and the trees should be syringed with a solution of Gishurst compound or soft soap made by dissolving 2 or 3 ozs. of either in a gallon of water. After syringing them dust the trees with sulphur. The trees may be in bad health in consequence of old age, unsuitable soil, or inclement weather, or all combined. You afford us no data to guide us to a satisfactory conclusion as to the real cause of their ill condition.

CLIMBING DEVONIENSIS (E. F. W.).—I do not consider this a good autumnal Rose, but certainly it is a Perpetual. Anyone who tries such a Rose as *Solfaterre* or *Rève d'Or* by the side of Climbing *Devoniensis* will be struck by the difference in blooming in the autumn. These Roses are growing against my church porch, and while *Solfaterre* is now blooming freely *Devoniensis* has only two poor blooms. Climbing *Devoniensis* requires the same treatment as to pruning as any other Roses. Only the dead wood should be cut out.—WYLD SAVAGE.

ASPHALT WALKS AND ROADS (A Correspondent).—Take two parts of very dry lime rubbish, and one part coal ashes also very dry, and both sifted fine. In a dry place on a dry day mix them, and leave a hole in the middle of the heap as bricklayers do when making mortar. In this pour boiling hot coal tar, mix, and when as stiff as mortar put it down 3 inches thick to form the walk. The ground should be dry, and be beaten smooth. Sprinkle over it coarse sand. When cold pass a light roller over it, and in a few days the walk will be solid and waterproof. A neater appearance is given by sprinkling with spar, yellow or other gravel, which must, of course, be fine, and put on immediately after laying down the asphalt in place of the sand. It will bear horses without breaking-up.

AMARYLLIS LONGIFOLIA AND PANCATIUM MARITIMUM NOT FLOWERING (A. H. S.).—Give them a cool stove temperature and a good supply of water when growing; as they approach the resting period, which is ascertained by the leaves changing yellow, gradually withhold water and keep the plants dry for three months.

WORMS IN SOIL (J. H.).—We cannot give you better advice than to apply clear lime water to the plants. We also advise you to procure different soil if possible. Soot water does good to many softwooded plants and is repugnant to worms.

TREATMENT OF YOUNG VINES (L. H.).—Cut the canes back to within 5 feet of the base of the rafters. It will be better not to plant any fresh Vines this year, but if you have taken up only one rod from each, train up a second rod from each of the Vines. That will give you six rods in the house at 1 foot 3 inches from each end, and 2 feet 6 inches apart. If the Vines grow very strongly five rods will be sufficient at 3 feet apart and 1 foot 6 inches from each end.

EVERGREEN CLIMBER FOR UNHEATED CONSERVATORY (R. M.).—*Berberidopsis corallina* is the best plant for your purpose. It has handsome dark-green foliage and crimson coral-like flowers. Give the roots a plentiful supply of rich soil, water freely, especially during summer; keep the foliage clean by sponging and syringing, and it will make a strong growth, covering a large area of wall quickly, and be gay with flowers in August and September.

GRAPE VINES ON A WALL (J. B. A.).—Let the wires be 1 inch from the wall, the horizontal branches 18 inches apart, the spurs 12 inches apart, and the Vines 8 feet apart.

TENDER BEGONIAS (G. L. Whitby).—Cut off the old growth down to the fresh shoots, to which afford every encouragement, and thus secure a fine late bloom. Liberal doses of liquid manure will materially assist this second growth and prevent exhaustion of the tubers.

BARK-BOUND FRUIT TREES (A. B. G.).—Scoring the bark of fruit trees with a knife is an antiquated way of trying to afford relief to trees that have become bark-bound through imperfect root-action arising from something wrong in the soil, such as a want of nutriment, or that sodden sour condition which is caused by an accumulation of stagnant water. Instead of hacking about the bark we now turn immediately to the roots and the soil in which they are growing, doing all we can to drain, enrich, and sweeten it, knowing that if we can get plenty of healthy roots established in a sound wholesome soil the health of stem and branches will follow in a season or two.

READ'S CHALLENGE BOILER (G. D. Mundy).—From what we know of this boiler we believe it will suit you very well for heating your small greenhouse 12 by 15 feet.

WATER LILIES PLANTING (Colonel M.).—The water is too deep. The Lilies should be planted in about 3 feet depth of water. If there is mud or the pond has a soft bottom we should merely secure a stone to each root with wire and drop in the water at the places desired. If, however, the bottom of the water be gravel or other firm substance, we should plant the plants in strong loamy soil, just covering the root portion of the plants with soil and make the plants secure in position with wire, pushing them into the requisite depth of water. Shallow wicker baskets, as fishing hamper, answer well for placing the plants in. The best time to plant is in spring (March and April) up to May and June; the earlier the better, so that the plants may make some growth—become established before winter. Plants may be procured of most nurserymen, especially those growing herbaceous plants. We cannot recommend anyone in particular. Other desirable aquatics are—*Villarsia nymphaeoides*, *Aponogeton distachyon*, *Iris pseud-acoris*, *Stratiotes aloides*, *Potamogeton oblongus*, *Richardia ethiopica*, *Butomus umbellatus*, *Alisma nutans*, *Hottonia palustris*, *Polygonum amphibium*, and *Ranunculus aquatilis*, all of which succeed in from 18 inches to 2 feet depth of water. They may be planted as described for the Water Lilies. *Nymphaea alba* is the white Water Lily, and *Nuphar lutea* the yellow Water Lily. Propagation is effected by division. On the margin, in water, you may have *Epilobium hirsutum*, *Lobelia Dortmanni*, *Lythrum Salicaria*, *Caltha palustris* (dore-pleno), *Cyperus longus*, *Juncus glomeratus*, and *Acorus Calamus*.

PAINTING WOODEN GARDEN FENCE (Idem).—We should paint the wood when thoroughly dry with thin creosote at a temperature of 180°, and in three weeks or a month paint with anti-corrosion paint stone or oak colour. We have a diamond paling fence done over with thin cold creosote about eleven years ago, afterwards painted oak colour, and the paint is as good apparently as when first put on. See what "OBSERVER" writes respecting this mode of painting at page 119 of the Journal for August 9th. The wood wall would be better wired, but the wires ought not to be more than half an inch from the wood.

STOPPING BUDDED ROSE GROWTHS (St. Edmund).—You did right to stop the growths to prevent the growths flowering; but wrong if you stopped closely, inasmuch as with a moist autumn the eyes at the base of the shoots may start into growth, such growths, from the wood not being ripe, often being killed if the winter prove severe. The plants may be transplanted to their permanent quarters in November, or so soon as the leaves fall, or a majority of them. Merely remove the flower bud from those advancing for bloom.

MARÉCHAL NIEL ROSE CUTTINGS (Idem).—Take up the cuttings now, potting them in pots no larger than will hold the roots easily, and place on ashes in a cold frame, shading from sun until established. The pots should be plunged in ashes to the rim or a little over before severe weather, in which a protection of mats over the lights will be found serviceable. Plant out in late March or early April. We presume you intend to plant against a wall or in a warm situation.

NAMES OF FRUITS (W. Berks).—Early Nonpareil. (A. H.).—We do not recognise the Apple. It is fearfully acid, and is no doubt good in pies. This is an illustration that an Apple which suits a boy does not always suit a

man. (P. E., Fowley).—We do not undertake to name more than six specimens, and they are as follow:—2, Hawthornden; 4, Golden Pippin or Yellow Ingestrie; 5, Scarlet Nonpareil; 10, Trumpington; 12, Sturmer Pippin; 14, Northern Greening. (W. R.).—Whorle Pippin.

NAMES OF PLANTS (F. G.).—1, Filago germanica; 2, Gnaphalium uliginosum. (Rosenkranz).—6, Rhus cotinus; 7, Veratrum viride; 5, Linaria Cymbalaria. Other specimens unsatisfactory. (L. E. L.).—1, Polygonum amphibium; 2, Mentha hirsuta; 3, Verbena officinalis. (E. H. H. S.).—1, Yes; 2 and 3, Both apparently Lastrea spinulosa. (G. E. L.).—Aster Triplicorn. (G. M. V. C.).—Salisburia adiantifolia. (W. H. S.).—1, Polystichum aculeatum; 2, Lastrea dilatata. (R. A. P.).—1, Lastrea Filix-mas; 2, Athyrium Filix-femina; 3 and 4, Lastrea dilatata.

POULTRY, BEE, AND PIGEON CHRONICLE.

THE WESTMINSTER AQUARIUM SCHEDULE.

We had hoped to comment upon this schedule with those of one or two more London shows, but Mr. Nicholls is holding back his bill of fare for the Alexandra Palace, and the Agricultural Hall's has not yet come to hand. We are anxious to notice this schedule, for we were told we were hard upon the Committee last time; but we were not alone in our opinions that things were badly managed at the last Show. Still the Cat Show arrangements were all that could be desired, which makes us certain that this time we shall not have again to complain. The officers once more appear to be the same, and we hope they will find themselves well supported; but there are so many capital schedules of prizes afloat, and hence we conclude the poultry classes are here and there in this schedule a little meagre. The ten rules and regulations are all much as usual, with the modern improvement of double baskets only on this occasion. We read "exhibitors must send birds of the same variety in the double baskets."

The Judges are announced, and comprise for poultry Messrs. Hewitt, Teebay, and Nicholls; while in Pigeons we see some new names, the Judges being Messrs. Betty, Esquilant, Graham, Hawley, Norman, Hill, and Wiltshire, with one blank place to be afterwards settled. Poultry have nineteen cups and Pigeons thirty-three, inclusive of Capt. Norman Hill's challenge cup or vase, value £15 15s.

In our schedule we read that the poultry classes are for birds of any age, but we have seen a schedule with a blue line drawn through the words "of any age," and we have reason to believe that the classes are for birds of the year only. Silver-Grey and White Dorkings compete together, as do Black and White Cochins. Houdans, Crêves, and La Flèche all have to meet in the same class, while the Spangled Hamburgs of both colours, as well as the Pencilled, do the same. Polish have four classes, two we are glad to see being for the Blacks. Brown and White Leghorns compete together in single birds, while Malays, Andalusians, and the Variety class are in pairs of cockerel and pullet. Bantams have six classes, Ducks four, and Geese and Turkeys none at all.

We come next to the Pigeon list, which is most admirable, Pouters having eleven classes, two of which are for Austrians; Carriers having fourteen, one being a champion class for cocks. English Owls have also a similar place allotted to those which have won not less than three first prizes of the value of £1 each. Turbits are well cared for, and we heard a great Turbit fancier speak in the highest terms the other day of the mode of classification. Among their seven classes one is for Shell-crowned and another for birds of the year. The opportunities which Dragon, Barb, Tumbler, and Jacobin fanciers have are manifold, and we can well imagine the display will be grand. We are glad, too, to see Fantails other than Whites have a class; while there are also places for Nuns, Trumpeters, Swallows, Archangels, Magpies (of two colours), and Runts. We must mention the poultry and Pigeon prize money is the same, which is most unusual, and should be heartily welcomed by the Pigeon fanciers. The entrance fees are 7s. 6d. per pen for poultry and 6s. for Pigeons, which we consider high, especially the former, after other shows, as Weymouth, Ipswich, Oxford, &c. The entries closed on September 3rd, and, though we have no reason or instructions to mention it, still we daresay the Hon. Secretaries will accept entries posted to-day, as this notice was unfortunately omitted last week; anyhow exhibitors can but try.—W.

GAINSBOROUGH SHOW OF POULTRY, &c.

For some years Gainsborough has been under a cloud as regards exhibitions of this nature, the last one, in 1873, proving a total failure as regards financial matters, but on Wednesday last one was held which proved a great success in every respect. For poultry and cage birds a capital marquee was provided, and Turner's pens were used. Game headed the list with a rare entry, but many of the birds were deep in moult, others being too young for successful competition, the cup being awarded to a capital Brown Red cock, which was, however, a little out of feather; second a Black Red in nice order. Hens.—First a sub-

stantial Brown Red, second a Black Red, and both in good feather; and here we recognised old acquaintances that would have been higher but for their ragged state. Cocks, any other colour.—First a Duckwing and second a Pile chicken; and in hens first was an uncommon good Willow-legged Pile and second a Duckwing, good in all points but a little dark in eye. Only one pen of Spanish, which won the section cup. The next section of any note was the Bantams, in which were some capital birds, the cup going to a Black Red cockerel in full bloom. Ducks were—first Rouens.

Rabbits had three classes, those in the Variety class being very good. First a Silver-Grey, second Angora, third a Belgian Hare, and extra third a Silver-Grey also.

Cage Birds were very good for the time of year, Parrots being an extraordinary class.

POULTRY.—GAME.—Black-breasted and other Reds.—Cock.—Cup, 1, and 2, W. Rudd. *who*, J. F. Walton. Hen.—1, F. Sales. 2, W. Rudd. *who*, J. F. Walton. Dr. Cameron (2). Any other colour.—Cock.—1, W. Rudd. 2, J. F. Walton. *who*, J. Wright. Hen.—1, W. Rudd. 2, Dr. Cameron. *who*, J. Wright. SPANISH.—Cup and 1, J. Powell. BANTAMS.—1, Miss I. A. Swanson. HAMBURGS.—Spangled.—1, Holmes & Deane. Pencilled.—1, H. Kidger. 2, G. Roberts. ANY OTHER VARIETY.—1, H. Kidger. 2, W. Wrack. ANY VARIETY EXCEPT GAME.—Cock.—1, R. Newbitt. Hen.—1, R. Newbitt. 2, M. Allitt. BANTAMS.—Game, Black-breasted.—Cock.—Cup, 1, and *who*, W. F. Entwistle. 2, E. Walton. Hen.—1, E. Walton. 2 and *who*, W. F. Entwistle. Game, any other colour.—Cock.—1, W. F. Entwistle. 2, E. Walton. *who*, W. F. Entwistle. J. H. Roberts. Hen.—1, W. F. Entwistle. 2, R. Newbitt. Any variety except GAME.—Cock.—1, Ludlow & Rackham. 2, H. Hooper. *who*, C. J. Dadds. Hen.—1, C. J. Dadds. 2, Ludlow & Rackham. DUCKS.—1, J. E. Croft. 2, A. & W. H. Silvester. *who*, W. Bygott (2). SELLING CLASS.—1, R. Newbitt. 2, F. Sales. CAGE BIRDS.—CANARIES.—Yellow.—1 and 2, Mrs. Green. Buff.—1, Mrs. T. Green. 2, W. Hill. Green or Variegated.—1 and 2, Mrs. T. Green. LIZARDS.—Gold or Silver-spangled.—1, Mrs. Green. 2, W. Hill. GOLDFINCH.—1, Mrs. Green. 2, Mrs. Burwell. LINNETS.—1, Mrs. Green. 2, V. P. Palmer. PARROT ON A PEG.—1, J. Gorman. 2, Mrs. A. Hart. 3, J. King. *who*, A. Waterhouse. J. King. ANY OTHER VARIETY.—1, J. May. 2, Mrs. T. Green. Extra Price, J. G. Stockton. *who*, Mrs. T. B. Ward, J. King.

RABBITS.—LOP-EARED.—Buck or Doe.—1, T. & E. J. Fell. 2 and *who*, J. Taylor. HIMALAYAN.—Buck or Doe.—1, G. W. Roberts. 2, A. Brown. ANY OTHER BREED.—1, W. Lunley. 2, J. H. Roberts. 3, T. & E. J. Fell. Extra 3, S. Ostler.

JUDGE.—Mr. E. Hutton.

SKIPTON-IN-CRAVEN POULTRY SHOW.

This Show was held at Skipton in the Park on Friday last. The pens for poultry are of the oldest pattern, and for years some dissatisfaction with them has been expressed by exhibitors, but there can be no doubt that they have proved very useful in this case; the tops being of wood, span-roof style, the birds suffered little or nothing from the wet, and were quite as good to judge after the drenching rain as when newly penned, but one great improvement had been made—viz., canvas had been stretched across the backs, rendering them quite comfortable.

The classes were for young birds, and the entry was the best we have seen this season. Of Game we can say little, as they were but poor except the cup pen of Piles. Buff Cochins were very good, but Partridge were better, a very well-grown pair of the latter variety carrying off the cup for the section. Brahmas of both colours were very good, but not as forward as the above. Spanish were a surprise in quality and condition, and made an easy win for the cup. Dorkings were well grown. In Polish were some good birds, Black, White-crested, and Golden winning respectively. French were a fair lot, the first-prize Crêves standing quite out. Hamburgs were, as usual, a capital section, and in some cases the competition was unusually keen. In Gold-spangles the first-prize pullet was just perfect, the cockerel very good but rather raw, yet the other winners very good also. In Silver-spangles the competition was close, every pen containing one or more good birds, but to our eye many of the pullets had undergone severe manipulations on the rump or tail coverts, and hence the awards were made to the most honestly shown specimens. Gold-pencilled were not as good as a class, but the two first cockerels were most perfect in colour and lacing on tail, but very young, the cream of this section being the first in Silver-pencils, which as a pen surpass any we have seen for some time, and were awarded the cup. Blacks very good and neat in head properties and high in colour. Game Bantams a rare lot and every pen mentioned, and the winners Black Reds. The Selling classes were large, and there were many cheap lots.

Geese, Turkeys, and Ducks were all good classes, the Aylesburies being particularly fine in quality.

Pigeons had but a poor list and were mostly in pairs, and in consequence the entry was poor, but there were some very good birds shown. A good list for Pigeons would pay well here.

POULTRY (YOUNG).—GAME.—Black or Brown Red.—1, J. F. Walton. 2, H. Belden. 3, J. Fortune. Any other variety.—Cup, 1, and 3, J. Walton. 2, G. Ambler. COCHINS.—Buff.—1 and 2, C. Sidgwick. 3, J. H. Jones. Any colour.—Cup and 1, C. Sidgwick. 2, J. Wood. 3, J. H. Jones. BRAHMAS.—Dark.—1, Horace Lingwood. 2, T. Pye. 3, H. Wilkinson. Light.—1, Horace Lingwood. 2, J. H. Jones. 3, H. Belden. SPANISH.—Cup and 1, J. Powell. 2, J. Roberts. 3, J. Moore. DORKINGS.—1, 2, and 3, T. Bridon. *who*, J. Walker. POLANDS.—1 and 2, J. Rawnsley. 3, J. S. Walton. FRENCH FOWLS.—1, G. Furners. 2, J. Moore. HAMBURGS.—Golden-spangled.—1 and 3, T. Dean. 2, J. Newton. Silver-spangled.—1, H. Belden. 2, Fawcett & Anderson. 3, H. Pickles, Stutter. Golden-pencilled.—1 and 2, H. Pickles. 3, H. Belden. *who*, J. T. Tard. Silver-pencilled.—Cup and 1, H. Pickles. 2, J. Stutter. 3, H. Smith. Black.—1, Fawcett & Anderson. 2 and 3, C. Sidgwick. BANTAMS.—1, E. Walton. 2 and 3, W. F. Entwistle. *who*, J. H. Roberts. W. F. Entwistle. E. J. Hartley, E. J. Booth. Any other variety.—1, E. Walton. 2, — Beanland.

J. H. Crowther. SELLING CLASSES.—*Cock*.—1, H. Beldon. 2, H. Wilkinson. 3, C. Carr. *who*, J. Wade. *Hens or Pullets*.—1, H. Beldon. 2, J. Newton. 3, T. Pye. *who*, C. Carr. *GEESSE*.—1, H. Beldon. 2, and 3, J. Walker. *who*, D. Montague. 3, H. Stets. *Ducks*.—*Aylesbury*.—1 and *who*, J. Walker. 2, S. H. Stets. 8, J. Newton. *Rouen*.—1, J. Walker. 2 and 3, J. Newton. *who*, J. R. Pollard. *Any other variety*.—1 and 2, J. Walker. 3, H. Beldon. *TURKEYS*.—1, J. Walker. 2, S. H. Stets.

PIGEONS.—*CARRIERS*.—*Cock*.—1, E. Mawson. 2, J. Walker. *Hens*.—1, J. Booth. 2, E. Mawson. *POUTERS*.—*Cock*.—1 and 2, R. H. Blacklock. *TUMBLERS*.—*Almond*.—1, A. Towson. 2, R. Yardley. *Medium*.—1 and 2, W. Lund. *who*, J. Walker. *JACOBINS*.—1, J. H. Stets. 2, W. Lund. 3, J. Thresh. 2, J. Walker. *JACOBINS*.—1, T. Holt. *BALDPATES*.—1, J. Thresh. 2, W. Lund. *RUNTS*.—1, H. Smith. 2, H. Yardley. *DRAGONS*.—1, J. Booth. 2, W. Lund. *ANTWERPS*.—*Long-faced*.—1 and 2, S. Wade. *Short-faced*.—1, W. F. Entwistle. 2, E. Mawson. *ANY OTHER VARIETY*.—1, T. Holt. 2, E. Mawson.

JUDGES.—*Poultry*: Mr. E. Hutton, Pudsey. *Pigeons*: Mr. W. Cannon, Bradford.

TODMORDEN POULTRY SHOW.

THE eighth annual Show was held at Todmorden on Saturday last, in Sandholm Fields, a site we cannot look upon as very suitable for the purpose, but no doubt the best to be had. This Society has often suffered from adverse weather, and so severe have been its trials that it was given out as the last to be held had the weather on this occasion proved unfavourable, but a splendid day came to the rescue, and the threatened collapse of the Society was averted. The pens (Turner's) were arranged in the open field, and the attention to the birds by the Stewards very good.

Game were not a good lot—in fact, we do not find good classes of this variety this year, but a nice pair of Piles carried off the cup. *Brahmas* were better, especially the Dark ones. The first containing a nice cockerel though rather raw yet, and the pullet very pretty in her marking. Light *Brahmas* were the only breed that was treated to a class for old birds. *Cochins* were good in both classes, the first-price Partridge especially fine in growth and general quality. *Dorkings* were good and well forward, but the *Spanish* were the cream of the poultry classes, and carried off the cup for poultry except *Game*. *Hamburgs* a nice show, the Silver variety standing out from the others; and in *Bantams* the Black Reds were a head of the rest. *French* had a class, but only three pens were shown. Polish, first White-crested Blacks, second Golden. *Leghorns* and *Sultans* each were provided for with very good results. There was a section for local poultry, and the entries came up pretty well, the medal for the best going to an adult pen of Dark *Brahmas*.

Of *Pigeons* were a good entry, and there were some good birds shown in most of the classes. The cup for the best pen in the Show was awarded to a Black Carrier cock.

Rabbits had a few classes. In Lops, first was a Blue-and-white, and second a Black. *Angoras* were an extraordinary class for quality, the first combining all the grand properties of the breed—viz., quality and amplexness of fur with size and neatness of ear. The second won by very little, being much smaller but quality excessively fine, as also were many others. *Himalayans* also good, the first-price winner a surprise, for ten days before it was quite grey on feet, but here it was grand in colour; the second also very good, and three others also very highly commended. Of *Silver-Greys* there were but four, but these were so even as to puzzle one, all being nearly perfect. In the Variety class first was a Black Dutch, and second a Silver Cream; and in the Selling class a Dutch was first and an *Angora* second.

There was one class for *Cats*, the first being one of the best red Tabby kittens we have seen for some time, and second a White Persian; a very good red Tabby *Angora* was very highly commended.

POULTRY.—*GAME*.—*Black Red*.—*Chickens*.—1, J. F. Walton. 2, T. Dyson. *Brown Red*.—*Chickens*.—1, J. Walton. 2, G. Bell. *Any other variety*.—*Chickens*.—1, J. F. Walton. 2, G. Ambley. *who*, J. Greenhalgh. *BRABRA*.—*ROPER*.—*Dark*.—*Chickens*.—1, R. P. Percival. 2, Fletcher & Hutchinson. *Light*.—1, R. P. Percival. 2, A. Begg. *Chickens*.—1, R. P. Percival. 2, Fletcher & Hutchinson. *COCHIN-CHINA*.—*Partridge or Buff*.—*Chickens*.—1 and 2, C. Sedgwick. *Any other colour*.—*Chickens*.—1, C. Sedgwick. 2, H. Beldon. *DORKINGS*.—*Chickens*.—1 and 2, T. Briden. *who*, J. Walker. *SPANISH*.—*Chickens*.—Cup, 1, and 2, J. Powell. *HAMBURG*.—*Gold-pencilled*.—*Chickens*.—1, H. Fickles. 2, J. Rawnsley. *who*, Fawcett & Anderson. *Silver-pencilled*.—1, H. Fickles. 2, H. Fickles. 3, H. Smith. *who*, Fawcett & Anderson. *Silver-spangled*.—*Chickens*.—1, H. Beldon. 2, Fawcett & Anderson. *Black*.—*Chickens*.—1, Sidgwick. 2, H. Cunliffe. *BANTAMS*.—*Game, Black or Brown Red*.—*Chickens*.—1, E. Walton. 2, W. F. Entwistle. *Game, any other variety*.—*Chickens*.—1 and 2, W. F. Entwistle. *who*, W. Shaw. *Any other variety*.—*Chickens*.—1, E. Walton. 2, B. Parkinson. *FRENCH FOWLS*.—*Chickens*.—1, G. Furness. 2, Denison & Sykes. *who*, Fawcett & Anderson. 2, F. U. with *Chickens*.—1, H. Fickles. 2, H. Smith. *LEGHORNS*.—*Chickens*.—1 and 2, J. Fielding. 2, J. Crowther. *SULTANS*.—1, H. Beldon. 2, A. Begg. *Any other variety*.—*Chickens*.—1, A. Smith. 2, J. H. Fletcher. *SELLING CLASS*.—*Cock or Hen*.—1, W. Bentley. *DUCKS*.—*Aylesbury*.—*Young*.—1 and 2, J. Walker. *Rouen*.—*Young*.—1, W. H. Rothwell. 2, T. Wakefield. 3, J. Chadwick. *Any other variety*.—1, J. Trickett. 2, J. Walker. *SELLING CLASS—Drake or Duck*.—1, W. H. Rothwell. 2, R. Stansfeld. *who*, J. Walker. 2, Capt. L. Anyon. *who*, J. Shackleton. *TURKEYS*.—1, J. Walker. 2, J. Diggle.

POULTRY (DISTRICT COMPETITION ONLY).—*COCHIN-CHINA*.—1, C. Holt. 2, A. Mitchell. *BRABRAS*.—Medal and 1, Fletcher & Hutchinson. 2, C. Holt. *BANTAMS*.—1 and 2, T. Cropper. *HAMBURGERS*.—1, J. Crabtree. 2, L. H. Suthers. *GAME*.—1, J. Crabtree. 2, T. Wild. *DUCKS*.—1, Fletcher & Hutchinson. 2, C. Holt. *ANY OTHER VARIETY*.—1, J. Crowther. 2, Fletcher & Hutchinson.

PIGEONS.—*POUTERS*.—*Cock or Hen*.—1, J. Gardner. *Chickens*.—*Cock or Hen*.—Cup, 1, and 2, J. Eekroyd. *TUMBLERS*.—*Almond*.—*Cock or Hen*.—1 and 2, J. Eekroyd. *Any other variety*.—*Cock or Hen*.—1, J. Eekroyd. 2, J. Gardner. *DRAGONS*.—*Cock or Hen*.—1, C. Waddington. 2, J. Gardner. *FAN-TAILS*.—*Cock or Hen*.—1, W. J. Warhurst. 2, J. F. Loversedge. *BARBS*.—*Cock*

or Hen.—1, W. Harrison. 2, S. Dyson. *JACOBINS*.—*Cock or Hen*.—1, W. Dugdale. 2, J. Gardner. *ANTWERPS*.—*Long-faced*.—*Cock or Hen*.—1, J. Rawnsley. 2, S. Wade. *Medium-faced*.—*Cock or Hen*.—1, J. Rawnsley. 2, J. Eekroyd. *Short-faced*.—*Cock or Hen*.—1, W. F. Entwistle. 2, J. Eekroyd. *TURKEYS*.—*Cock or Hen*.—1, W. Harrison. 2, J. Eekroyd. *TRUMPETERS*.—*Cock or Hen*.—1 and 2, J. Gardner. *OWLS*.—*English*.—*Cock or Hen*.—1 and 2, J. Eekroyd. *Foreign*.—*Cock or Hen*.—1, J. Eekroyd. 2, T. Mathew. *BLUE ROCK*.—*Cock or Hen*.—1 and 2, J. Shackleton. *NUNS or MAGPIES*.—*Cock or Hen*.—1 and 2, J. Gardner. *FLYING PURPOSES*.—*Cock or Hen*.—1, J. Gardner. 2, S. Crossley. *Extra*.—Fletcher & Hutchinson. F. Stansfeld & W. Barker. *who*, H. Devonport. D. Oldfield. J. Robertshaw. *SILVER-GREY*.—*Buck or Doe*.—1, T. & E. J. Fell. 2, J. Robertshaw. *who*, T. & E. J. Fell. D. Oldfield. *ANY OTHER VARIETY*.—*Buck or Doe*.—1, E. Pepper. 2, T. & E. J. Fell. *who*, J. Robertshaw. *SELLING CLASS*.—1, T. & E. J. Fell. 2, S. A. Clegg. *who*, S. Buckley. J. W. Baron (3). *CATS*.—1, M. A. Marsden. 2, T. Whiteley. *who*, Miss Y. Oldfield.

JUDGES.—*Poultry, Rabbits and Cats*: Messrs. Hutton and Brierley. *Pigeons*: Mr. J. Hawley.

WARMINSTER POULTRY SHOW.

THIS excellent little meeting was held on the 30th ult., and the greatest credit is due to Mr. Hinton for having worked-up the Show to so satisfactory a stage. Birds from long distances competed and the quality was extremely good. Mr. Sainsbury awarded the prizes, and the pens were Billet's of Southampton.

In *Dorkings* the first-price pen were good square birds but out of feather. We were, however, pleased to see Miss Milward exhibiting here. The *Dorking* chickens were not of much account save the first-price pen. In the next class, which was for *Asiaties* of any age, a good pen of Buifs came in first; but we fancy Mr. C. Bloodworth was lucky to obtain the extra prize for the best pen in the Show with them, as the cock was much ticked on the wings, and our own choice for this honour would probably have been the first-price adult *Spanish*, which were most excellent in combs and faces, and came from Mr. Jones of Bristol. In the next class, for *Asiatic* chickens, the first prize went to good *Whites* (Woodgate), while third went to nice *Light Brahmas* (Scannell), which changed hands during the Show. *Game* and *Malays* were good, the latter breed especially well represented by Mr. Hinton, one of whose pullets we thought very grand in shape and bone. *Spanish* won first in the mixed collection of *Spanish, Leghorns*, and *Andalusians*, as they did, too, in chickens, and both were good pens. In *Polands* Mr. Burrell had a fine pair of *Gold*s, but the cock's tail was much broken. The class, however, was an interesting one. In *Bantams* good *Black-booted* won first, a really excellent pair belonging to Mrs. Holmes; and *Silver-laced* were second, but too large and coarse. Next followed two very nice *Variety* classes, the one for adults and the other for chickens. Here Mr. Woodgate won both the first prizes. He was, however, in chickens closely pressed by Mrs. Holmes. Both classes afforded a very good display of this breed. The cottagers' class was less good than we hoped to find, only a moderate pair of *Andalusians* were first.

The Carriers and Pouters of Mr. Holmes and the Baldheads and Fans of Mr. Hinton, jun., were most praiseworthy; and the collection of *Cage Birds* attracted much admiration. We were quite pleased to see them so well represented, and one talking Parrot was most amusing, though he delighted in damaging his prize card.

Now that Mr. Hinton has placed his Show on so good a footing we hope it will continue to progress, and that the classes another year will be even further increased.

COTTINGHAM POULTRY SHOW.

THE annual Show took place at Cottingham on Wednesday, the 29th, in Mrs. Gee's grand Park, which is unsurpassed with its splendid foliage for such a purpose. A capital marquee was provided for the poultry in consequence of its two days' duration, which latter arrangement we consider a mistake for the amount offered in prizes, and yet the entries were good. In poultry there were some good birds, particularly among the *Hamburgs*, *Bantams*, and *Ornamental Ducks*.

Pigeons were good in all classes; the Pouters, as usual, a capital lot; the Carriers in both classes also well represented, and some capital birds were shown in the class for young ones—first a *Black Pouter*, second *White*, and third a *Carrier*.

Rabbits were not a large show, but there were some good ones, especially among the *Silver-Greys* and the *Variety* class.

JUDGES.—Mr. E. Hutton, Pudsey.

APIARIAN EXPERIENCE IN 1877.—No. 3.

It remains for me now briefly to describe what I found on my return home, after five weeks' absence, on the 13th of August. First I observed an utter absence of drones, of which there were considerable numbers in some of my hives on the 9th of

July. I think I never remember so absolute a destruction at this time of year. Of course the population of my various hives was much diminished, and it became apparent that very little comb—in some hives none whatever—had been constructed in hive or super in the interval of my absence. Not only so, the honey visible in the cells was greatly short in every case of what it had been, while some populous hives appeared to have no honey at all. One of the supers contained 7 lbs. of honey-comb, which is the total amount of my harvest this year. Another was completely rified of the honey it had contained even in sealed cells. The same was the case with the sectional supers, so that I have nothing to report as to my trial of them, save only that in one case the bees had carefully followed the artificially made guide combs attached to the sections, and in the other had as carefully ignored them, building irregularly curved combs and preferring to build combs at lesser distances than the furnished guides. I cannot doubt, however, but that the bees would have accurately followed the guide comb in every case if only honey had abounded as in ordinary seasons. This year the white clover harvest, as to honey, has proved a total failure in these parts. No visible addition has been made to their stores by the bees in all my hives since about the 12th or 15th of June, when scarcely any of it was in bloom this very late season.

Since my return home I have been diligently feeding more or less copiously eight out of eleven hives, only two of which appear to have sufficient stores to last till spring. The two weakest have since been joined into one, after removing (by driving) the queen of that which had the least distinctly marked Italians. Sixty pounds of food have thus far been consumed, and they are still quietly storing away from 1 to 2 lbs. each hive. Of course while this is going on the queens in every case are laying eggs, and a good deal of pollen is being carried in.

Being one of those who greatly admire the Italian sort I have introduced two queens in place of two degenerate ones. The reception in both cases was very welcome, and both hives took the queens through a hole in the crown-board within eight hours of the removal of their own queens. One of them is breeding largely, the other not so evidently yet.

Altogether I think my bees are strong in numbers, vigorous in health, and in a week or two will be so well supplied with stores that I am trustful for the future; and as all have young queens under two years old at most, and all are well housed in good sized and clean hives, I am content.

I may add that two or three sorts of contrivances for feeding are in use, but I find none simpler than a wide-mouthed bottle with one or two caps of lino tied over them and inverted upon perforated zinc over a hole at the top of the hive. I find that most of the hives will take down from 2 to 3 lbs. a-day. In the open air I am careful to cover the bottles, so that robbers are nowhere.—B. & W.

BEE-KEEPING IN 1877.

FROM all quarters comes a doleful cry from bee-keepers of a poor honey harvest, not only in England but on the continents of Europe and America; indeed in California, the paradise of the honey bee, from where last year the principal bee-keeper, Mr. Harbison, sent to market 100 tons of honey, has not now honey enough to keep the bees over the winter. Many persons in California follow bee-keeping as a trade, and, being generally men of no capital, the total loss of harvest threatens them with ruin from their inability to provide food for their workers. A writer in the American "Bee Journal" states that he has not had a square foot of new comb built in his apiary this year, when a year ago an ordinary swarm would fill its hive in ten days; and at the present time more than half the bees in his county are in a starving condition, without an ounce of honey or cell of brood. We may console ourselves in England that things are not so bad as that, but yet in many instances food must now be given for storage if we would save our bees. In my own apiary not a single one of ten swarms has given me any surplus, and more than half have been storing an artificial supply for these three weeks past. The remainder have also been slowly fed to stimulate breeding, the result being that I have an abundance of young bees to winter with—an item of the utmost importance for spring success, as bees born before September, queens excepted, will never live till April.

From the very general tales of failure it is pleasant to turn to a case of success, more especially as the result may be fairly ascribed to the intelligent appreciation and earnest desire for advancement of a working man whom I may claim in some measure as a pupil of my own. This man, whom a contemporary styles "the Buckinghamshire Champion," came to me in 1874 to enter as an exhibitor at the Crystal Palace Show. He told me he had about forty stocks, from which he cleared between £5 and £10 a-year, keeping his bees in the old-fashioned style of his neighbours. He was fairly successful with his exhibits, and has been more to the fore every year since, thanks to the numberless bees he has rescued from the brimstone pit of his neighbours to strengthen his own stocks with, timely help to

his favourites when needed, and an ever-readiness to adopt anything in the way of mechanical assistance to his bees. At Weston-super-Mare Show last month his prize awards in various classes were five firsts, two seconds, one third, and silver and bronze medals of the British Bee-keepers' Association; at Sherborne five firsts, two seconds, and bronze medal; and at Dorchester two firsts, silver and bronze medals, and three extra prizes; and doubtless he will be heard of at other provincial shows yet to come off. In such a season as this it is no little to the credit of a working man that he is able to show over twenty fine supers of honey, beating both gentle and simple wherever he has competed.

The American comb foundation has this year been tried by most of our leading bee-keepers who use frame hives; and if I except Mr. Cheshire, who has a rival arrangement of his own, everyone pronounces it an unqualified success. With these wax sheets there need be no more crooked combs nor undue quantity of drone comb. These two things are under the absolute control of the bee-master, and the start the bees get at a time when most needed is wonderful. I have just sent to America for another 100 lbs. of the prepared sheets and a machine to make them with here, although I doubt if they can be produced in England so cheaply as they can be imported, which is under 2s. 6d. per lb.—little more than the price of wax. The season closes without the great metropolitan meeting of bee-keepers that has taken place each of the three previous years. Many persons regret this, and we hope the Association will be enabled next year to announce a great bee and honey show at the Crystal Palace once again.—JOHN HUNTER, *Eaton Rise, Ealing.*

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.						Rain.
1877. Aug. and Sept.	Baromet- ter at 32° and Sea Level.	Hygromet- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.			
		Dry.	Wet.			Max.	Min.	In sun.	On grass.		
We. 29 Th. 30 Fri. 31 Sat. 1 Sun. 2 Mo. 3 Tu. 4	Inches.	deg.	deg.	N.W.	deg.	deg.	deg.	deg.	deg.	In.	
	29.988	66.1	59.3	N.W.	61.4	72.7	55.4	124.9	51.7	—	
	29.855	62.9	57.3	S.W.	61.0	68.8	54.0	116.6	50.1	0.090	
	29.885	59.6	58.9	W.	59.8	67.7	48.9	120.8	45.8	0.040	
	30.118	55.8	51.0	N.W.	58.2	66.4	43.0	117.2	39.1	—	
	29.988	57.4	49.3	S.	57.8	66.8	45.1	118.7	41.5	0.160	
	29.664	54.7	53.2	N.	57.8	60.7	48.3	95.0	48.4	0.275	
	30.271	52.8	49.3	N.W.	56.3	64.7	46.0	114.6	45.6	—	
Means	29.967	58.5	53.2		58.9	68.8	48.7	114.7	45.2	0.585	

REMARKS.

29th.—Fair but rather dull morning, but fine bright day afterwards throughout.
30th.—Fair and fresh, but rather windy morning; rain before noon, but fine afternoon and evening.
31st.—Fine fresh morning, some showers, but on the whole a pleasant day.
1st.—Very bright fresh day throughout.
2nd.—Very bright and fine, but rather cool in the morning, and so continued all day, except a few drops of rain about 4 p.m.
3rd.—A very showery day, the showers at times very heavy, and the air very cool all day.
4th.—Beautifully bright and fine all day, with nice fresh breeze.
Moderately fine autumnal week. The rain here has not been heavy.—G. J. SYMONS.

COVENT GARDEN MARKET.—SEPTEMBER 5.

TRADE remains as before—quiet.

FRUIT.									
	s. d.	s. d.	s. d.		s. d.	s. d.	s. d.	s. d.	s. d.
Apples.....	½ sieve	2 6 to 3 6		Melons.....	each	3 0 to 8 0			
Apricots.....	dozen	2 6 4 0		Nectarines ..	dozen	4 0 18 0			
Chestnuts.....	bushel	0 0 0 0		Oranges.....	½ 100	10 0 15 0			
Currants.....	½ sieve	3 0 8 6		Peaches.....	dozen	8 0 24 0			
Black.....	½ sieve	6 6 7 0		Pears, kitchen..	dozen	0 0 0 0			
Figs.....	dozen	2 0 6 0		dessert.....	dozen	1 0 8 0			
Filberts.....	lb.	0 0 0 0		Pine Apples ..	lb.	5 0 8 0			
Cobs.....	lb.	0 4 0 6		Plums.....	½ sieve	0 0 0 0			
Gooseberries..	½ bushel	0 0 0 0		Raspberries...	lb.	0 0 0 0			
Grapes, hothouse	lb.	1 6 4 0		Walnuts.....	bushel	5 0 8 0			
Lemons.....	£ 100	6 0 10 0		ditto.....	£ 100	0 0 0 0			
VEGETABLES.									
	s. d.	s. d.	s. d.		s. d.	s. d.	s. d.	s. d.	s. d.
Artichokes.....	dozen	8 6 to 8 6		Mushrooms....	pottle	0 0 to 2 0			
Asparagus.....	£ 100	0 0 0 0		Mustard & Cress	pnnnet	0 0 0 0			
Beans, Kidney..	bushel	4 0 5 0		Onions.....	bushel	0 0 0 0			
Beet, Red.....	dozen	1 6 8 0		pickling.....	quart	0 4 0 0			
Broccoli.....	bundle	0 9 1 6		Parsley.....	doz. bunches	2 0 0 0			
Brussels Sprouts	½ sieve	0 0 0 0		Parsnips.....	dozen	0 0 0 0			
Cabbage.....	dozen	1 0 2 0		Peas.....	quart	0 6 1 0			
Carrots.....	bunch	0 6 0 9		Potatoes.....	bushel	5 0 0 0			
Capicums.....	£ 100	1 6 2 0		Kidney.....	bushel	5 0 7 0			
Cauliflowers...	dozen	3 0 4 0		Radishes.....	doz. bunches	1 0 1 6			
Celery.....	bundle	1 6 2 0		Rhubarb.....	bundle	0 6 1 0			
Coleworts doz.	bunches	2 0 4 0		Salsify.....	bundle	0 9 1 0			
Cucumbers.....	each	0 3 0 9		Scorzonera ..	bundle	1 0 0 0			
Endive.....	dozen	1 0 2 0		Seakale.....	basket	0 0 0 0			
Fennel.....	bunch	0 8 0 0		Shallots.....	lb.	0 8 0 6			
Garlic.....	lb.	0 6 0 0		Spinach.....	br-hel	2 6 0 0			
Herbs.....	bunch	0 2 0 0		Turneps.....	bunch	0 5 0 8			
Lettuce.....	dozen	1 0 2 0		Veg. Marrows..	each	0 2 0 4			
Leeks.....	bunch	0 4 0 0							

WEEKLY CALENDAR.

Day of Month	Day of Week	SEPTEMBER 13—19, 187 .	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.			
13	Th	Alexandra Palace International Fruit Show.	68.4	45.7	57.0	5 34	6 18	1 46	8 28						4 15	256
14	F		67.0	46.1	56.5	5 35	6 16	2 50	9 18					)	4 36	257
15	S	Sale of Bulbs at Stevens' Rooms.	67.5	45.9	56.7	5 37	6 13	3 38	10 20					8	4 57	258
16	SUN	16 SUNDAY AFTER TRINITY.	68.4	46.8	57.6	5 38	6 11	4 13	11 30					9	5 19	259
17	M		68.9	44.9	56.9	5 40	6 9	4 33	morn.					10	5 40	260
18	Tu		68.2	46.5	57.4	5 42	6 6	4 55	0 43					11	6 1	261
19	W	Twilight ends at 8.3 P.M.	67.8	44.3	56.3	5 43	6 4	5 9	1 56					12	6 22	262

From observations taken near London during forty-three years, the average day temperature of the week is 67.9°; and its night temperature 45.6°.

SUMMER-FLOWERING HARDY HEATHS.

IN August the number of hardy plants in flower is sensibly diminished; those of former months have no attraction, or interest except for seed; few new ones succeed. True this is of herbaceous and ligneous plants, wild or cultivated, indigenous or exotic. The moors, however, are then in their chief beauty from the different kinds of Heathblooms with which they are clothed—clad in the choicest garb of purple hue. Matchless, indeed, for softness of purple colouring is a wide expanse of moor in August, the multitudinous blossoms—tiny bells—chime a welcome that no one knows so well how to appreciate as the wearers of “purple.” I confess to knowing no spot so fitted for a ramble in August as an upland moor. The bright glow of the Heather, its aged growths silvered by Lichen; the monotony broken by patches of Bracken, with here and there, stunted or closely cropped by mountain sheep, grouped or isolated Gorse in glaucous freshness; Rowan tree gladdening with its clustered coral-red fruit; finding at your feet the golden green of the Bilberry and its refreshing purple berry with a bloom upon it that no black Grape may equal; bathing the feet in sphagnum to gain access to a patch of Sundew, which seen between the eye and the sun at rising, mid-day, or setting, its marvellous hairs and carnivorous teeth of crimson velvet arrayed in hundreds of pretty little pearly stars, the whole plant studded with dewdrops or their likeness; the mind not enraptured beholding in amazement and lifted in adoration will see no grace in the agile creeping of the adder, the perfection of serpentine form in its swimming, and its inimitable colours bright and gaudy as those of its foe the peacock, the two not living in company any more than the lock of Nature can see beauty in plants cut, clipped, and trained into form anything but natural.

Everyone may not be privileged to take moor air; distance may be an object, and right to view if there a deterrent; but there is no reason in the world why there should not be beds of Heather in every garden. Few American grounds have clumps of Heath; they have place probably as a border or hedge, and occasionally Heaths are employed as rock plants. In any form they are desirable; but there are few pleasure grounds in which suitable positions could not be found for a mass or masses of these highly decorative plants, for they bloom at a time when most shrubs have passed flowering, having nothing beyond the foliage of interest. The foliage of the Heath is fittingly contrasting with bolder foliage; indeed nothing is so monotonous as an American ground composed of Rhododendrons only, there being little or no variety in form or tint of foliage, it being only when in blossom that the monotony is varied by different shades of colour; but if we introduce Heaths, Ledums, Gaultherias, and Andromeda we obtain variety in form in time of flowering, and harmonising contrast both of foliage and flower.

Many are kept from growing Heathblooms from the supposed necessity for peat soil. Naturally they are found growing in peat, but it is by no means apparent that peat soil is the cause of our moors being covered with Heather, the evidence is all the other way; the substance known as heath-mould being the *débris* of successive generations of the decayed plants. Either Heathblooms have the power of changing the soil in which they have for any length of time been established into peat by the decay of their fibres, a progressive addition being made to the surface by the decay of the fallen foliage, and an hypothesis supported by the fact that where there is any depth of peat with a growth of Heather the surface is devoid of silicious substances, whilst only a little from the surface the soil contains often considerable silicious particles—sand or flint, according to the formation; the upper stratum is a result of the *débris* of the foliage or part above ground, and the under of that of the decayed fibres. Or we must arrive at the contrary hypothesis, that the peaty formation is due to prehistoric vegetation—*débris* of a vegetable character, which may have been that resulting of a forest—an accumulation of leaves converted into mould by decomposition, which, however, do not contain much silicious matter, and if lying high is brown in colour and mostly occupied with Bracken—not being peat at all, but vegetable soil, for which all the Heathblooms have a decided preference, providing sand be liberally added, though some brown peats are found supporting a good growth of Heath, and the soil full of its decayed stems; yet it is mostly associated with a growth more or less of Bracken, as is testified by its rhizomes in the soil. Decomposing vegetable matter is incontestably the life of Heaths, either their own or that of prior vegetation. I know an extensive establishment in whose pleasure grounds the Rhododendron could not be induced to grow in other than prepared soil—peat had from a considerable distance, and they in the course of a few years even in peat became very unhealthy. The soil was light and sandy, and though trees and shrubs succeeded, the Heathblooms did not, neither there nor in adjacent grounds. Nevertheless in the same formation of soil the vicarage garden had its healthy groups of Rhododendron and upon the lawn a luxuriant mass of Heather; those very subjects in the grounds of the squire, baronet, and lord were very bare of foliage, unsightly objects. The success of the vicar was due to peat. By no means, for the only peat used was that brought with the Heather 2 or 3 inches thick from a moor a dozen miles distant. The whole secret was in the vicar having taken the *débris* from a wood of the squire, and mixed with it about a sixth of sand. The leaf soil, for it was nothing less or more, was put on about a foot thick, and mixed with that depth of the soil of the grounds. This raised the beds or groups considerably, adding immensely to their appearance. The wood from which the vicar had the soil that made his grounds resplendent with Heathblooms was thirty years after planted with Rhododendrons beneath Oaks of, judging from a felled tree, two hundred or more years' growth, harbouring a great

number of rooks, which at the former date were kept from increasing by the wanton destruction of the young; rook-shooting days being greatly in vogue at that time—the time when the Potato disease first became so prevalent in this country; but now not a rook is allowed to be shot in that wood, a great one, with no better cover for pheasants than is formed by Rhododendrons. The ground where was a mass of Daffodils in spring, and a blaze of colour of deeper hue in early summer, to wander through which with the rooks cawing overhead must be cheering to the proprietor—a satisfaction that he is preserving for the good of himself, his tenants, and country the most useful of British birds. But for our land-owners the rook would long ago have become extinct. I mention this because of the dread some appear to entertain of the introduction of the Colorado beetle. Only encourage the rook, and with its aid and our climate between them not a single beetle will survive the year of its advent. The starling, too, would no doubt help to rid the ground of the larvæ; but there is little to be expected from him with the insect upon the plant, as the food of the starling is always sought for in the open; he must see all around.

But I will return to the Heathblooms, for which peat is not essential; indeed most peats, so called, are slow but sure poison for a majority of hardwooded plants. I write this guardedly, for though I have access to miles of moor, high and low, I find it very unsuitable for this particular class of plants: hence the supply of peat *alias* leaf soil; brown and light is procured from a distance. Our home-made leaf soil is black when rotten, but that bought is brown—no more like moor peat than rock is like clay. It resembles cocoa refuse more than anything else, and that material when about half decayed and highly compressed is a very similar material.

Setting peats aside for the present, for which not a necessity arises, to successfully cultivate the various kinds of hardy Heaths, they thriving in most good garden soils, all that is wanted is an open airy situation and the soil freed of stagnant water. If a clump is to be formed on grass the only thing we do is to turn in the turf about 4 inches, and upon this the Heather is placed, it being cut with about 2 inches of soil, selecting the Heather where about 6 inches high. The bed or clump is simply turfed over, and we have a miniature moor at once which for beauty and sweetness is in its season unrivalled. Any time in autumn, winter, and spring in mild weather a group of Heather may be formed. I would advise those contemplating growing Heather to procure it in the turf state, and it grows as surely as grass turf upon a lawn; but I have seen the Heather planted in a sort of inoculation form patches of Heath about 9 to 12 inches square at that or greater distances apart, in which case it is necessary to let them into the ground to the extent of the thickness of the Heath turves. We have several clumps formed in that manner, they in a few years covering the whole surface, but it has, as compared with a clump wholly planted at first, a lumpy appearance. There is that in its favour, that it requires less Heather.

In forming a clump of Heaths where there is no turf I have found it desirable after digging the ground, after pegging out the form, to give it a coat of turfy loam, adding a third of cocoa refuse and a sixth of sand, a 3-inch thickness of which will secure the growth of all the Heathblooms. We can plant according to taste, either having isolated groups of one kind or variety in one; yet it is advisable not to fritter material away by isolation, which grouped or massed is most distinct and effective. The different varieties of *Erica* (*Calluna*) *vulgaris* afford material for a group, the body being the common Heather, and the varieties irregularly disposed on the margin, but always divided by the species from another variety; or a large clump may be formed of the species and smaller detached ones of the varieties, but with some connecting link between them. The species is more tall-growing than the varieties except *E. vulgaris* Alporti, and should therefore form the centre, whether of a group if all in one, or of groups if the species and varieties are detached. There is some variety in colour of flower as also of foliage with diversity of form of plant, so that we have with a similarity of plant great diversity. The species *E. vulgaris*, pale purple; the red, *rubra*; scarlet, *coccinea*; white, *alba*, both in the tall and dwarf (minor) form. Then we have gold, *aureo-variegata*; silver, *argenteo-variegata*; and the downy in tomentosa, the bush form in *dumosa*, and the upright in *stricta*, with dwarfness in *nana*, and a mere pigmy in *pygmaea*.

The Grey Heath (*E. cinerea*) with its white, dark purple, red, and flesh-coloured varieties are subjects for another group

or groups. *E. tetralix alba*, vars. *carnea* and *rubra*, are desirable as forming another group, and the Cornish (*E. vagans*) with its varieties *alba* and *rubra*, giving us the fourth group of natives, to which we can add *E. Mackayana* and its var. *carnea*; the French *E. multiflora*, vars. *alba* and *rubra*, and make up a seventh group with the Portugal (*E. ciliaris*).

With the preceding plants very effective heatheries may be made, either in groups of a species and its varieties, or separate beds of the varieties themselves. They are to be recommended for country residences when there is little in shrubs that is effective, and not a great deal in herbaceous plants but what is at any time liable to be washed out by heavy rains. Heaths require little care. Weeds must of course be kept under, and a little pruning will occasionally be required to keep them in form, which should be done before they commence growing.

Omission must not be made of the very beautiful Irish Heath, the most lovely of all; the white (*Menziesia polifolia alba*); its dwarf form (*M. pumila stricta alba*) forms a fine mass; also the purple (*atro-purpurea*).

Heaths are natives of Europe—*i.e.*, the hardy kinds, though generally classed with American from the supposition that they, being associated with peat soil, thrive under similar conditions. The American plants proper do not thrive in bleak exposed situations, but Heaths delight in mountain air. There is one similarity, however, between them—*viz.*, they all succeed in the atmosphere of towns.—G. ABBEY.

VARIORUM—AUTUMN ROSES, PLANTING, &c.

THERE is a world of wisdom in the trite proverb, "*Qui s'ex-cuse s'accuse*," so I will not deprecate like "WYLD SAVAGE" (although in his case always needlessly) the trial I am about to inflict upon my possible readers, but I will at once say that the sight of my old friend's initials, "C. P. P.," in his useful paper in a recent Journal has been to me as "ointment to sore eyes"—in a highly personal sense, too, having a severe influenza cold—and nerved me to send you a few lines generally under the same heading, "Autumn Roses."

It must, I believe, be generally confessed that La France easily would gain the pride of place if Mr. Hinton were ever to make an election of autumn Roses; but in addition to this indispensable variety I mention a list of other Roses almost certain to give me good blooms in September:—H.P. Exposition de Brie (I include this Rose's three brethren), Sénateur Vaisse, Baronne de Rothschild, Alfred Colomb, Horace Vernet, Xavier Olibo, Mdle. Victor Verdier, Emilie Hausburg, Lyon-naise, Jules Margottin, Duchesse de Morny, Louis Van Houtte. Among these Xavier Olibo and Horace Vernet have been superb, while among Noisettes and Teas Triomphe de Rennes, Céline Forestier, Niphetos, Madame Berard, Alba Rosea, and Catherine Mermet have given me second blooms more glorious than I ever remember before.

I hope few, if any, of my brother rosarians have been hit so hard as I have been by over-manuring this year. Of course so unusually wet a year might upset the very best calculations; but I must come to the conclusion, after the experience of two or three decades, that no stimulating materials can be given with perfect safety except in a liquid state or as top-dressing after the plants are once placed *in situ*, and even there applications must never be given without due consideration as to time and other circumstances.

I should just like to say a word also about that important subject of planting Roses. I may be wrong, of course, but I believe most of us plant our Roses too soon. There are many reasons which prompt to early planting, especially taking the first advantage of the ground working well to get one's plants properly established before the winter, and a still more feasible reason is that unless Roses are secured early from the leading nurserymen the chances are all the best varieties will be sold out. Of course this difficulty will remain to those who like myself advocate, whatever may be the soil or climate, late planting. The Rose I believe entirely ceases from all growth—hibernates (if I may use thus the word) but for a very few weeks, and so if the weather permit I recommend the week after Christmas or thereabouts—the first open season afterwards in fact—to plant out, as giving hardly if any check to the constitution; a very important fact, especially as Roses are grown now-a-days so precociously gross and large that it oftener takes three than two years for the plants to recover moving. Among new Hybrid Perpetual Roses La Rosière, Madame Prosper Langier, Abel Carrière, and Monsieur Tout-nier are alone to be recommended as real tried acquisitions.

Among Teas Madame Léon de St. Jean is most probably a great addition, but new good Teas are still *rare aves*.—HEREFORDSHIRE INCUMBENT.

POTATOES ON A LIGHT SOIL.

ONCE upon a time, not many years ago, I found an old man planting kidney Potatoes. "How do you plant your Potatoes, my friend?" I said. "I plants 'em whole, sir, with a little bit off the end," said he. Rather Irish I thought, but believe he was right in his practice, for sometimes the old Potato does not decay, and if so the produce is not so good. Considerable difficulty has been experienced by the grower of Potatoes on light soils here of late years. If you plant early you encounter Charybdis in the shape of frost; on the other hand, if you plant late you run against the Scylla of drought; or, if you manage to steer your bark clear of both those obstacles you are very likely landed in the Styx of disease. In 1872 and 1873 Potatoes here were very much injured by frost in the early spring, so much so that many persons were induced to plant later than usual in 1874, but it did not answer. In that year drought set in early, and the crop of early Potatoes was consequently very poor.

I thought this year I would try a few experiments to endeavour to find out a way of producing better results. In the middle of February I had a small plot of land planted with the Morning Star Potato (an early kidney). The sets were not shot out at all, and were planted 5 inches deep. In the middle of March I had another plot planted with the same kind of Potato, with sprouts about an inch long, also 5 inches deep. At the end of March another lot was planted at same depth; at the beginning of April another only 3 inches deep; the last lot was planted at the end of April 3 inches deep.

My man prophesied that the first lot would never come up, but they did with the exception of two. All the plots came up very well. The second was the most forward, and the Potatoes were protected from the frost early in May by some straw spread along the rows directly they could be seen. They may be protected by earthing-up the soil, but that does not answer if the land is wet at the time.

All the plots looked very well in the early summer, and were all the better for the little manure which was put in with the previous crop; but the weather in June was very dry, and if rain had not come in the early part of July the later-planted would not have been worth much.

The second plot was the most forward at digging-up time, the first and third were about ready together. The crop was good, and they were dug-up before the appearance of disease. The fourth and fifth lots did not come until all danger of frost was over, but were overtaken by disease. The fourth was consumed before many were lost, but the fifth lot was badly diseased. An attempt was made to save them by removing the tops. The operator sets a foot on each side of the haulm and it is drawn out. In this case it was not successful, and ought, perhaps, to have been done earlier; and the quality of the Potatoes suffered so much from the removal of the tops that they were almost uneatable, but improved by remaining in the ground. When dug-up at the end of August about half of the last plot were lost by disease. Perhaps we ought not to draw conclusions from a single experiment, but try again over a series of years.

There are, however, one or two things which are confirmed by previous observation. It is by no means desirable to plant late in this district. The middle or end of March is the best time, and more care and thought must be given to protection in May than has been hitherto done. If you carry out this and put in a good breadth of early sorts the loss by disease is much curtailed.

I think the early Potatoes here are planted too near the surface, particularly when planted in good time, and I think the deeper have the following advantages:—They do not come-up so soon, they are more sheltered from the rays of the sun, and as the diseased Potatoes are generally nearest the top not so liable to disease, but this latter part requires further observation.

It is certainly rather singular that the disease should have prevailed for more than thirty years, and that no one should have discovered any remedy, and that differences of opinion should still exist as to what was the origin of the disease. The experiment has been tried of importing Potatoes from Peru, thinking that the cultivated varieties were rendered delicate and that others would escape, but the Peruvians were as bad as any.

I am inclined to the view that the Potato disease is very much the same as the zymotic disease in the human subject, and more care ought to be taken to prevent the spread of it by contagion. The rotten Potatoes, I think, ought not to be left on the land to taint the atmosphere as they usually are, but collected and boiled for pigs or burnt. Not long ago I sent you a short review of an essay in the Royal Agricultural Society's Journal by Professor de Bary on the Potato fungus, in which I recommended the experiment to be tried of planting Potatoes, which were perfectly free from disease when dug up, in a field away from any human habitation. If any of your correspondents have done so this year I should be glad to hear the result.—AMATEUR, Cirencester.

CARLISLE INTERNATIONAL SHOW.

SEPTEMBER 6TH, 7TH, AND 8TH.

CARLISLE may fairly be said to be a city of contests. Almost from time immemorial it has been the scene of contention in turn by Roman, Dane, Saxon, Norman, Scot, and its own brave burghers. Fire, and sword, and famine, and capitulation have all in turn had the ascendancy; triumph and humiliation have in turn prevailed. Yet notwithstanding the strife of centuries no city in the realm is more peaceful, more industrious, than Carlisle is now, for neatness, thrift, and cleanliness prevail everywhere; the storm of contending passions has spent itself, and the calm of reason, contentment, and prosperity rules. But not the calm of inactivity. No, Carlisle—contestant Carlisle—must have its tournament of peace as it has had its struggles of war. The last contest has been worthy of the border city, a contest if not so exciting yet immeasurably more commendable than others which are chronicled in history—a contest of peace, industry, skill, and refinement, where old friends have met in honest rivalry and remain friends still; where new acquaintances have been made, latent effort stimulated, and another impetus has been given to horticultural work.

The last contest has demanded the same qualities which were exercised so remarkably in the past—energy, resource, and endurance. Was not energy required when a small city of thirty thousand inhabitants essayed to provide a gathering equal to any similar gathering of the past—an International Horticultural Show? Was not resource necessary in making the arrangements so complete? Was not endurance needed to have the immense display arranged and judged two hours after sunrise on the first day of the Show? Let those answer who saw the work being done. It was a work of day and night continually to do so much as was done in the preparations for and conduct of this great Show. Projected only a year ago, it has been carried-out successfully. All who could do so have aided in the work: The Corporation, by placing the fine site at the disposal of the Committee and providing other facilities; the affluent of the district and the tradesmen of the town, by contributing in a liberal, in some instances a spirited manner, towards the Show fund; and the Executive Committee, by arduous and well-directed labour.

The site of the Show was admirable. On the one hand the frowning warlike Castle, on the other the peaceful and beautiful river Eden. There are the natural boundaries of the pasturage known as the Sawceries. About thirty-five acres were enclosed. The great industry of horticulture was exemplified in its various phases—mechanically by glass structures, boilers, machines, manures, tools, and requisites; culturally by the splendid examples of skill displayed in the tents. The tents, yes, these demand a passing notice both on account of their extent and manner of arrangement. A finer display of canvas was never seen at any horticultural show. Its cost alone, independent of its fittings of gas and hot-water pipes, was £600. Its extent was approximately as follows:—A covered way of considerable length conducted to the specimen-plant marquee, which was 300 feet long by 50 feet wide. This terminated in a central pavilion-like marquee, lofty and circular, and nearly 100 feet in diameter. From this central point other branches radiated—one to the north about 100 feet in length for cut flowers, another to the west 300 feet long for fruit, and a third to the south 450 feet long by 50 feet wide, chiefly for the nursery-men's collections of plants; in addition, yet isolated, was a large marquee for the display of vegetables. Such was the extent and disposition of the tents, we will now refer to their contents and to the honours won by the several competitors.

But were the tents filled? Yes, fairly well. At one time it appeared impossible to fill them, as so many who had entered failed to occupy their space. Was the Show a success? Doubtful, extremely so. Writing on the opening day and before the opening hour, the prospects look gloomy enough. Everything under control had been done to bring the undertaking to a satisfactory issue, but an element beyond control asserted its power

in a forcible, almost a violent manner. Immediately the judging commenced the rain commenced too, and continued pouring incessantly—a perfect torrent for hour after hour, making the ground a quagmire, penetrating the tents, converting the sawdust into mortar, and rendering planks necessary at and within the entrance of the marquees. Those who were present will not soon forget the baptism of the International Show at Carlisle on the eventful morning of September 6th. In referring to the classes we may follow somewhat the order of the schedule, and commence with

FRUIT.

While many good collections and excellent examples of culture were staged, the display was not on the whole equal to those provided either at Dundee last year nor at Edinburgh in 1875, nor yet, except perhaps in the classes for Grapes, to exhibitions we have seen at South Kensington and at the two Palaces at Sydenham and Muswell Hill. A season of extraordinary inclemency has prevailed in the north: rain, and cloud, and cold have ruled supreme, and the wonder is that the ordeal has been passed through so well as it has been; but even that is not a sufficient reason for the staging of much fruit, especially Grapes, which were at once the strong and the weak feature of the Show, and which compelled the Judges, stern men and competent—Mr. David Thomson of Drumlanrig, and Mr. Barron of Chiswick—to withhold some of the prizes. They did right, and have set a wholesome example, for a prize should never be given unless to a subject of intrinsic merit.

COLLECTIONS OF FRUIT.—In the premier class of sixteen sorts prizes of £20, £15, £10, and £5 were provided, but only three collections were staged; Mr. Hunter of Lambton, who had entered, not competing. The prizes were awarded in the following order:—First to Mr. Coleman, gardener to Earl Somers, Eastnor Castle; second to Mr. Johnstone, gardener to the Earl of Strathmore, Glamis Castle; and third to Mr. Ingram, gardener to the Duke of Northumberland, Alnwick Castle. At the first glance Mr. Johnstone's fruit looked the more imposing owing to the superiority, at any rate in size, of the Grapes, but a more careful examination satisfied that Mr. Coleman's fruit throughout was of the greatest general excellence. His collection included two fine and perfectly ripe Pine Apples (Smooth Cayenne and Black Jamaica, excellent Black Morocco Grapes and rather small but well-finished Black Hamburgs, also Alicantes and Madresfield Courts; splendid Golden Gem and a fine Eastnor Castle Melon, Bellegarde and Crimson Gaiety Peaches, Pitmaston Orange and Elrude Nectarines, Brown Turkey Figs, Diamond Plums, and Morello Cherries, all of superior quality. Mr. Johnstone had splendid Grapes—Muscats of Alexandria, Alicante, Black Hamburg, and Gros Guillaume; but his Pines were not ripe, and Peaches, Nectarines, Plums, and Figs were rather small. Mr. Ingram had capital Trebbiano, Muscat of Alexandria, and Black Hamburg Grapes, and rather small Lady Downe's; excellent Pines, an unripe cluster of Bananas, two fine Melons, Peaches, Nectarines, Oranges, and Cherries.

In the class for twelve sorts of fruit there were seven entries, Mr. Wallis, gardener to Sir Henry Thompson, Bart., Kirkby Hall, York, winning the premier place with Muscat of Alexandria, Black Hamburg, Muscat Hamburg, and Buckland Sweetwater Grapes, all of excellent table quality; two Melons, Gilbert's Green-flesh being very fine; and excellent Royal George and Barrington Peaches, Nectarines, Figs, and Apricots. Mr. McKelvie, gardener to the Duke of Roxburgh, Broxmouth Park, Dunbar, was second with splendid Muscat of Alexandria and other fine Grapes, rather coarse Melons, and smaller fruits generally good. Mr. Upjohn, gardener to the Earl of Ellesmere, Worsley Hall, Manchester, was third with very good Grapes and Melons, but his other fruits were not quite ripe; and Mr. Dickson, gardener to J. Whyte-Melville, Esq., Mount Melville, St. Andrews, fourth, his most noticeable dishes being fine Buckland Sweetwater Grapes and good Peaches and Oranges. For ten sorts of fruit, Grapes and Pines excluded, there were only two competitors—Mr. Shand, gardener to the Earl of Lonsdale, Lowther Castle, Penrith, and Mr. Graham, gardener to J. Allan, Esq., Craigburn, Moffat, who were placed as named. Mr. Shand had excellent Peaches and Nectarines, very fine Apricots, and excellent Plums, Gooseberries, and Cherries, all ripe and in capital condition; Mr. Graham's fruit was also good, but some of it was not fully ripe.

PINES.—These were not numerous, nor, except the winners, good. Mr. Ingram won first honours in the class for two Queens with well-ripened fruits weighing about 5 lbs. each; Mr. Sandford, gardener to the Earl of Beattie, being placed second; and Mr. Halliday, gardener to Mrs. Wemyss, Wemyss Court, Dysart, third with smaller fruit. In the class for any other sort Mr. Coleman won with Black Jamaica; and for the heaviest fruits Mr. Sandford was placed first with unripe Smooth Cayennes weighing about 6 lbs.

GRAPES.—There were four entries in the class for eight varieties. Mr. Reid, gardener to A. H. Moncur, Esq., Rockfield, Dundee, worthily won the first position with a medium-sized bunch of Alicante in splendid condition; Lady Downe's with

extra fine berries; Muscat Hamburg, very full and well finished; Gros Guillaume, weighing 8 or 9 lbs. and nearly black; Muscat of Alexandria, very superior; Mrs. Pince, fine but not well coloured; medium-sized and good Black Hamburgs and Gros Colman, fine in berry but not quite ripe—an admirable collection. Messrs. Lane & Son, Great Berkhamstead, were placed second with superior Muscats of Alexandria, very good Golden Queen, Alicante, Trebbiano, Bowood Muscat (very compact), and excellent Black Hamburgs. The third prize appeared to have been withheld, and a fourth was awarded to Mr. Halliday, whose bunches had been much injured in transit.

In the class for four varieties there were fourteen competitors. Mr. Hammond, gardener to Sir Wilfred Lawson, Bart., Brayton Hall, Carlisle, won with very finely finished but unnamed examples of Black Hamburg, Buckland Sweetwater, Golden Champion (splendid), and Alicante. Mr. Coleman was second with Black Hamburgs in the true Eastnor style; Black Morocco, full and fine but not quite ripe; and excellent Buckland Sweetwater and Madresfield Court. Mr. Kirk, gardener to Mrs. Mackie, Enspil House, Castle Douglas, was placed third with very good examples of Duke of Buccleuch, Black Hamburg, Buckland Sweetwater, and Alicante—large bunches, but much rubbed in transit; and Mr. Curror, gardener to G. Douglas, Esq., Eskbank, Dalkeith, fourth with fine bunches but not fully ripe.

In the class for two bunches of Black Hamburg Mr. Coleman won the silver cup offered by Messrs. James Boyd & Son, Paisley, with splendid examples, fine in size of berry and of excellent finish, the bunches weighing about 3 lbs.; Mr. Upjohn being second with fine full bunches, but not quite jet black. Mr. Fraser, Stobbo Castle, Peebleshire, third with capital fruit, but a trifle deficient in colour; and Mr. Harrison, Knowsley, fourth, with large bunches but rather small berries. There were twelve competitors. In the class for two bunches of Muscat Hamburg five competed. Messrs. Lane & Son were first for very full and finely finished bunches; Mr. Smith, gardener to the Countess of Stair, Bargany, Girvan, second with excellent produce; and Mr. Bloxham, gardener to Sir P. Duncombe, Brickhill Manor, Bletchley, third with capital bunches but not fully ripe. Mr. Fraser, Stobbo, won in the Madresfield Court class with medium-sized bunches of remarkable finish, and which had been thinned by a master hand. The second award had no exhibitor's name attached, and the third went to Mr. Bruce, gardener to J. Fildes, Esq., Chorlton-cum-Hardy, Manchester, good in bunch and berry but not quite ripe. Some very inferior produce was exhibited in this class. Mr. Hammond worthily won the first place with Alicantes—splendid in bunch, berry, and bloom; indeed, finer examples have rarely been seen. Mr. Curror was second with compact well-finished bunches, but rather small berries; and Mr. Ferguson, gardener to B. Shaw, Esq., Carrick Hall, Selby, third with large bunches and black berries, but rubbed in transit. There were ten competitors. Mr. Hammond, who exhibited well throughout the Show, was first with Lady Downe's, bunches medium size and berries extremely fine, but not at their best—not quite ripe; Mr. Fraser, Stobbo, who is evidently a first-rate cultivator, was second with excellent examples; and Mr. Ferguson third with large but rather loose bunches, which had been somewhat injured in transmission to the Show. Mr. Reid won with Mrs. Pince—thus securing the silver tea service, value £6 6s., offered by Messrs. Mackenzie and Moncur—good and admirably thinned bunches, and nearly black; Mr. Hammond was second with good bunches, Mr. Bruce third, and Mr. Ingram fourth, but none of them were well coloured. In the class for any other variety of Black Grapes Mr. Hammond won with extra fine Gros Colmans; Mr. Ferguson being second with the same variety, but not quite black; and Mr. Leyden, gardener to R. B. Wardlaw-Ramsay, Esq., Whitehill, Edinburgh, third with capital examples of Black Prince, about 4 lbs. in weight and well finished; they almost merited a higher position.

We now come to the white varieties, and have to note some of the best and worst Grapes in the Exhibition. The class for Muscat of Alexandria (two bunches) was an excellent one. There were eighteen competitors. Mr. McKelvie won the premier place with handsomely-formed bunches of 5 or 6 lbs. weight, with fine and highly finished berries without spot or blemish; Mr. Ferguson was second with excellent examples, regular and full; and Mr. Coleman third with capital bunches, clear and well finished. Messrs. W. Thomson & Son, Tweed Vineyard, Clovenfords, won in the Duke of Buccleuch class with medium-sized bunches and very fine, regular, and clear berries; and Mr. Curror was second with still finer berries, but slightly spotted. The third prize was very properly withheld. In the class for any other white variety Mr. Curror won with capital examples of Buckland Sweetwater; Mr. Anderson, gardener to the Earl of Stair, Oxenford Castle, Dalkeith, was second with Pearson's Golden Queen, regular and fine, but slightly rusted and rather dull; and Mr. Upjohn was third with large bunches of Trebbiano, but the berries were not clear.

Single bunches, Black Hamburgs, seven competitors. The first prize of £3 3s. was offered by Mr. David Lowe, Edinburgh,

but it was rightly withheld. Third and fourth awards were made to Mr. Reid, gardener to D. Barrie, Esq., Elmbank, Dumfries, and Mr. Kirk, Ernsapie House, Castle Douglas. A wretchedly poor class. Alicantes.—First Mr. Masson, Marchmont, Dumfries; bunch medium, berries good. Second Mr. Paterson, Dryfeholme, Lockerbie; poor bunch, very fine berries. Third Mr. Peel, gardener to E. P. Sheldon, Esq., Carlisle. Lady Downe's.—First Mr. Reid, Rockfield; fairly good. Third, Mr. Dickson, Arkleton; not ripe. Gros Guillaume.—First Mr. Ferguson; bunch large, berries small but well coloured. Third Mr. Bruce. Muscat Hamburgh.—First withheld; second Mr. Paterson; third Mr. Reid, Elmbank—a poor class. In the next four classes for one bunch of any black Grapes, one of Muscat of Alexandria, one of Golden Champion, and one of Canon Hall Muscat, the Judges knew their business too well to award any prizes. In the class for any other sort of white Grapes Mr. Kirk won with a remarkably fine forked bunch of Buckland Sweetwater weighing 6 or 7 lbs., full and clean, and well worthy of its prize. Mr. Miles, Wycombe Abbey, was second with a good tapering bunch of Trebbiano weighing 4½ lbs., and Mr. Paterson third with Buckland Sweetwater.

In the heaviest-bunch class we have nothing sensational to record. Mr. Dickson, gardener to J. Jardine, Esq., Arkleton, who during a series of years has exhibited so remarkably in this class, won with to him a small bunch of Syrian weighing 9 lbs. 23 ozs.; and in the corresponding class for black Grapes he won with a Black Alicante weighing 6 lbs. 13 ozs.

In the next class, for one bunch not less than 1 lb. in weight having the finest bloom, there were seventeen competitors. A few of the bunches were indifferent, but others, especially the prizewinners, were excellent. The premier prize was won by Mr. Lees, gardener to the Marquis of Downshire, Hillsborough Castle, Co. Down, with a well-shaped medium-sized bunch of Cooper's Black. The berries were faultless in appearance, carrying a fine bluish-black bloom of great intensity. Mr. Curror, Eskbank, was second with a densely coloured bunch of Alicante, and Mr. Masson was third with the same variety.

MELONS.—About two dozen of fruits were staged. They were not of extraordinary excellence, but were generally superior to Melons which have been exhibited in the south during the past two years. In the green-fleshed class Mr. Coleman was first with a handsome and excellent fruit of Eastnor Castle; Mr. Kinnaid, gardener to T. H. Graham, Esq., Edmond Castle, second; and Mr. Sandford third. In the scarlet-fleshed section Mr. Halliday, Wemyss Castle, was first with a seedling of extra rich flavour; Mr. Sandford second; and Mr. Leslie, gardener to W. Maxwell, Esq., Dalbeattie, third. Mr. Kemp, gardener to J. Dalrymple, Esq., Langlee, Galashiels, exhibited an oval-shaped deeply ribbed fruit weighing 14 lbs. 11 ozs., which was highly commended; and Mr. O. Tyler, Hassobury, Bishop Stortford, Herts, exhibited a new variety named President, one of the most promising Melons that has lately been submitted for public adjudication. The fruit is round, medium-sized, and handsomely netted; flesh rather firm yet melting, very juicy, and of remarkable richness. It was awarded a first-class certificate.

In the class for Figs Mr. Halliday, gardener to the Earl of Mansfield, won with an excellent dish of the White Genoa, Mr. Coleman being second with capital examples of Brown Turkey, and Mr. Paterson third.

PEACHES.—The show of this fruit was only of moderate extent, but some capital dishes were staged. In the class for twelve fruits in two varieties Mr. Leydon won with Barrington and Noblesse, fine both in size and colour. Mr. Fox, Carnforth, was second with Bellegarde and Royal George, and Mr. Dickson, Arkleton, third with Royal George and Noblesse. For dishes of six fruits there were ten competitors. Mr. McFarlane, gardener to T. Pilkington, Esq., Knowsley Cottage, Prescot, won with a very fine dish of Barrington. Mr. Fox was second, and Mr. Lees, Hillsborough Castle, third with the same variety.

NECTARINES.—The principal prizetakers were Mr. Hannagan, Hooton Hall, Chester, Mr. Dickson, Arkleton, and Mr. Craig, Wykeham Abbey, York, who were placed in the order of their names with creditable dishes.

PEARS AND APPLES, with the exception of the Royal and the foreign collections, were not noteworthy. For twenty varieties, two fruits each, ripe or unripe, Mr. Jones, gardener to Her Majesty the Queen, Frogmore, was far in advance of the other competitors. He staged admirable examples of Beurré Bachelier, Madame Trevey, British Queen, Vicar of Winkfield, Chancellor, Beurré Bose, Victoria, Beurré Rance, Kingessing, Beurré Clairgeau, Beurré Benoit, Marie Louise, Conseiller de la Cour, Williams' Duchesse, Autumn Nelis, Williams' Bon Chrétien, Van Mons Léon Leclerc, Doyenné Boussoch, Beurré Diel, Brockworth Park. Messrs. Gellender & Sons, Newcastle, had the second, and Mr. Miles the third prize. In the corresponding collection of Apples Mr. Jones was similarly in advance of his rivals with the following good varieties:—Flower of Herts, Ecklinville, Braddick's Nonpareil, Hawthornden, Boston Russet, Wellington, Blenheim Pippin, Old Orange Pippin, Ribston

Pippin, Rosemary Russet, King of the Pippins, Cox's Pomona, Hollandbury, Waltham Abbey Seedling, Hoary Morning, Duke of Gloucester, Frogmore Prolific, Brown's Seedling, Betty Geeson, Frogmore Seedling (No. 1). Mr. Miles had the second prize for a capital collection. The first prize of £15 for a collection of Apples and Pears of foreign growth was won by Mr. Adolphe D. Heine of Ghent with upwards of fifty varieties of Pears and thirty of Apples. These collections prevented the title of the Show, "International," from being a misnomer. They were good, but not equal to the Frogmore collections. Plums were very scantily exhibited. The chief prizewinners were Mr. Dickson, Arkleton, and Mr. McKelvie, who staged good dishes. Gooseberries and Currants were good, a dish of the Red Currant La Versailles from Mr. Wallis, Kirkby Hall, being very fine.

The special prizes of £5, £3, and £2, offered by J. Jardine, Esq., of Arkleton, for eight varieties of hardy fruit, brought out seven admirable collections. The first prize was won by Mr. Sandford, gardener to the Earl of Bective, with Plums (two varieties), Pears, Apples, Peaches, Gooseberries, Currants, and Cherries. Messrs. Turner Bros., Liverpool, were second, and Mr. Yonds, Scotby, third.

Only one other collection of fruit demands notice—namely, a collection of British-grown fruit of the Orange tribe. This was contributed by Mr. Muir, gardener to C. R. M. Talbot, Esq., M.P., Margam Park, Glamorganshire. Ten varieties were staged—Citrons, Shaddocks, Lemons in two and Oranges in six varieties, the largest exhibit we remember seeing of this character, and an extra prize was worthily awarded.

PLANTS.

Although the spread of fruit was not equal to that of former northern displays known as international, yet the collections of plants at Carlisle far surpassed those of either Dundee or Edinburgh. Many grand specimens were staged in competition, and remarkably good and extensive miscellaneous groups were arranged by the nurserymen.

In the nurserymen's class for twenty stove and greenhouse plants the £20 prize was won by Mr. Troughton, manager to the Preston Nursery and Pleasure Garden Company, with an excellent and admirably arranged group. In the centre were three Tree Ferns, on each side of which were capital specimens of *Lapageria rosea* on a 5-feet globe, *Cycas circinalis*, a splendid plant; *Dion edule*; *Eurya latifolia variegata*, oval-shaped, 5 feet high, effective; *Areca amula*, &c. The second prize of £15 went to Messrs. J. & R. Thyne, Glasgow, who also arranged a capital collection, including a very fine *Areca Baweri*, *Cyathia Burkei*, *Astrocaryum mexicanum*, *Latania borbonica*, *Cycas revoluta*, brightened with such plants as *Croton Johannis* in splendid colour, *Pancratium grandiflorum*, and *Heaths*; a remarkably fine specimen of *Adiantum cuneatum* was included in this group. Messrs. Clark, Bros., Carlisle, were awarded the remaining prize for a creditable collection.

In the class for six Orchids in bloom Mr. B. S. Williams, Victoria and Paradise Nurseries, Holloway, was easily first. He staged a very good and remarkably attractive specimen of *Oncidium Marshallii* with six fine spikes, *Odontoglossum Alexandræ fimbriatum*, an exceedingly fine variety of this fine Orchid; *Cypripedium Sedeni*, *Vanda suavis*, and *Odontoglossum Reicheneitii*. Mr. Pattinson, St. Ann's Hill, Carlisle, was awarded the second prize. In the class for ten exotic Ferns the prizes went to the Preston Nursery Company, Messrs. J. & R. Thyne, and Mr. James Service, Maxwelltown, Dumfries, in the order named, who each exhibited good collections, which were arranged in circular groups in the central pavilion tent. The Tree Ferns were also placed in this tent between the other groups. The chief prizes went to Messrs. James Dickson & Sons, Newton Nurseries, Chester, with very tall *Dicksonias*, and Messrs. J. & R. Thyne with *Cyathia medularis*.

In the class for twelve new plants not in commerce the first prize was awarded to Mr. William Bull, King's Road, Chelsea, and second to Mr. B. S. Williams. These collections were much discussed by the visitors, and were generally considered to be of equal excellence; both of them were good. Mr. Bull's plants consisted of *Zamia princeps*, very elegant; *Croton formosum* and *C. triumphans*, stately and bright; *Dieffenbachia Shuttleworthii*, *Alocasia Johnstonii*, *Aralia splendens*, *Bowenia spectabilis serrulata*, *Curmeria Wallisii*, and *Dracena Goldiana*. The Holloway plants were *Croton Prince of Wales*, a fine drooping spiral-leaved variety of good colour; *C. lancifolium* and *C. imperator*, bold and finely coloured; *Dracenas Scottæ*, *superba*, and the beautiful *Banseii*; *Nepenthes phyllamphora variegata*, *Thrinax gracillima*, *Jambosa acida*, *Adiantum Williamsii*, *Cibotium nigrescens*, and *Aralia nobilis*.

CONIFERS.—These were arranged in the open air. Very fine collections were shown by Messrs. W. Barron & Son, The Nurseries, Borrowash, who had the first honours for fifteen varieties; Messrs. Dickson & Turnbull, Perth, who were second; and Messrs. Little & Ballantyne, Carlisle, who had the remaining prize. The last-named firm also exhibited a valuable miscellaneous collection. Messrs. Clark, Bros., also contributed

worthily. For six hardy Conifers introduced during the last six years the awards went to Messrs. Barron & Son, who staged (in the pavilion tent), attractive but necessarily small examples of *Podocarpus alpina*, *Retinospora tetragona aurea* and *R. pisifera aurea*, *Wellingtonia gigantea lutea*, *Picea concolor*, and *Cupressus Lawsoniana elegantissima*. Messrs. Barron also exhibited a large miscellaneous collection of new and rare Conifers, and Mr. G. J. Alberts, Boscoop, Netherlands, a collection of Hollies.

The prizes offered for the best "new Conifer of real merit" was won by Messrs. Little & Ballantyne, with their new weeping *Wellingtonia*, which is well worthy of the distinction. The illustrations which have appeared of this variety do not do justice to it. By no mere manipulation could its branches be tied down so elegantly at the same time the growth is free, almost vigorous. As a graceful columnar specimen for lawn ornamentation this distinct variety is admirably adapted, and can hardly fail to become very popular. This firm and Mr. James Service secured the prizes for collections of alpine plants.

AMATEURS AND GARDENERS.—In this section of the Show there were many plants exhibited of little or no merit, but at the same time there were others which have never been surpassed at any show held at the same period of the year. Where Mr. Shuttleworth the prince of amateur cultivators exhibits, marvellously fine specimens are certain. That gentleman's collection of twelve stove and greenhouse plants, six of them in bloom, which won the £20 prize, was splendid. *Gleichenia diacarpa* and *dichotoma* were 8 to 9 feet in diameter, and in superb health; *Cordylus indivisa* was in remarkable vigour, as was also *Phormium Colensoi variegata*; *Croton majesticum* was 5 feet through and in rich colour; and *Cycas circinalis* was grandly exhibited. Amongst the flowering plants were *Allamanda nobilis*, good; *Dipladenia amabilis*, *Ixora coccinea*, and *Lagerflora alba*, the last-named plant, which covered a 3-foot globe trellis, being not more remarkable for its fine wax-like flowers than for its exuberant foliage; *Statisia imbricata*, 6 feet; and *S. profusa*, 5 feet in diameter, were conspicuous in this fine collection. The second prize, £15, was well won by that excellent cultivator Mr. Todd, gardener to A. B. Stewart, Esq., Rawcliffe, Glasgow; and Mr. Kinnaird, Edmond Castle, was awarded the third prize of £10. In the class for six plants, three of them in bloom, Mr. Hammond (who exhibited as well in the plant as he did in the fruit classes), won with excellent examples of *Vallota purpurea* with thirty spikes, *Allamanda Hendersoni*, *Rondeletia speciosa major*, a *Dasylium*, *Croton*, and very fine *Cocos Weddelliana*. Mr. Shand, The Gardens, Lowther Castle, had the second prize, the notable specimen in the collection being *Lilium lancifolium rubrum* trained much in the way of a specimen *Pelargonium*. This fine example of *Lilium* culture was fully 6 feet in diameter, it had about eighty spikes and quite three hundred expanded and opening flowers. In the class for nine plants in 12-inch pots the prizes went in the following order—to Mr. McIntyre, gardener to A. A. Richardson, Esq., Lisburn, Mr. Hammond, and Mr. Blackwood, Edenhill, Penrith, for good collections. Messrs. Hammond and Todd secured the prizes in the class for six fine-foliaged plants, *Adiantum farleyense* of the first-named exhibitor being in grand condition, and the remainder good. In the next class, for six plants in bloom, some excellent specimens were staged. Mr. Shuttleworth won with *Eucharis amazonica*, 5 feet in diameter and thirty spikes; *Erica Jacksonii*, 2½ feet through; *Ixora coccinea*, *Statisia intermedia* and *profusa*, and *Anthurium Scherzerianum*. Mr. Hammond was second, his *Vallota* being especially fine; and Mr. Shand third, *Lilium lancifolium* again being conspicuous by its excellence. Mr. Shuttleworth won in the class for three Palms with *Cocos Weddelliana*, *Chamærops humilis elegans*, and *Pritchardia pacifica* remarkably fresh. He also won first for the specimen *Todea (Leptopteris) superba* and for eight plants for table decoration, Mr. Todd being second in these classes. Mr. Pratt, gardener to Viscount Hill, Hawkstone Park, Shrewsbury, being third in the table-plant class. All the collections were very good.

Crotons were splendidly shown by Mr. Scott, gardener to G. Steele, Esq., Hill Park, Bothwell, who had the first prize for four varieties, with *C. irregulare* 5 feet in diameter and 6 feet high, probably the best plant in Europe; *C. angustifolium*, a handsome pyramid about 7 to 8 feet high; *C. Weismanni*, a golden globe of 5 feet, and *C. variegata*, a fine pyramid, all in splendid health and colour. Mr. Hammond was second with *C. pictum*, *undulatum*, *Johannis*, and *Weismanni* in admirable colour and condition. Mr. Hammond won first with *Adranas*, which were good, followed by Mr. Blackwood and Mr. Todd; and Messrs. Scott and Todd secured the prizes for hardy Heaths. Ferns were very well exhibited in this section, but *Fuchsias* and *Geraniums* were not of remarkable quality, while *Cockscombs* were rough and *Balsams* poor. In the class for *Liliums* Mr. Shand was well in the ascendant, and Mr. Pattison, Baxter Park, Dundee, staged a choice and well-cultivated collection of Alpine plants. Most of the specimen plants were arranged on a low stage in the centre of the entrance tent, the new plants

and table plants occupying the sides of the great marquee, which was heated for the choice miscellaneous collections of the chief nurserymen. It is fortunate that this marquee was so well heated, or much injury must have resulted during the first cold, wet, and miserable day of the Show. The heating was done by Mr. Corbett, Carlisle, with one of Hartley & Sugden's climax boilers.

The collections of plants in this tent were extensive and rich. The first group, a grand one, one of their very best, was arranged by Messrs. Veitch of London. Pitchers, Orchids, Ferns, Crotons, Aroids, insectivorous plants, &c., were arranged with consummate taste, and were greatly admired; it occupied staging about 40 feet in length by 10 feet wide. Messrs. J. & R. Thyne arranged the next group, which was also about 40 feet in length, then came Mr. Williams's (of Holloway) extensive and fine collection. Here *Croton Queen Victoria* asserted its great decorative power; *C. volutum* and other bright varieties were also represented, associated with Palms, Ferns, Orchids, *Liliums*, *Darlingtonias*, &c., and *Dipladenia Brearleyana* attracted much notice. Messrs. R. P. Kerr & Sons, Aigburth Nursery, Liverpool, arranged a collection of considerable extent and merit, as also did Messrs. Pattinson, St. Ann's Street, Carlisle. Messrs. Ireland & Thomson, Craigleith Nurseries, Edinburgh, arranged an extensive and meritorious collection, including most of the newest and most popular decorative plants in a bright clean state. Noticeable in this group was the dark *St. Martin's Blue Lobelia* with bronze foliage, also two Ferns, *Gymnogramma nævium*, a dwarf and densely powdered variety of *G. peruviana*, and *Adiantum Flemingii*, a fine variety of *A. concinnum*. This is a Fern of great merit; its fronds possess a certain massiveness on account of the closely arranged pinne, while they are elegant by their gracefully arching character. The colour of the fronds is a rich deep green. It appears to be a free grower, and likely to be useful for both exhibition and decorative purposes, also for cutting for bouquets. Messrs. James Dickson and Sons, Newton Nurseries, Chester, staged a large collection of Palms and other decorative plants, also a new seedling form of *Cupressus Lawsoniana*, very compact in habit and silvery in appearance. It was awarded a certificate of merit, and if it goes on improving it will prove a great acquisition.

The above collections were honoured by awards of recognition, and the following plants in the collection of Messrs. Veitch were awarded first-class certificates:—*Cattleya Sedeni*; *Nepenthes hybrida maculata major*, a grand variety; *N. Rafflesiana pallida*, extremely compact; and *Athyrium Goringianum farinosum*, an elegant Fern and very silvery.

In the pavilion tent Messrs. Little & Ballantyne arranged a large central group, and round the sides were collections of market plants from the nurseries of Messrs. Clark, Bros., and Mr. Armstrong—a grand tent, but not artistically arranged. A small adjoining marquee contained some cut flowers, excellent examples of skeletonised leaves from Messrs. Cusson, Southampton, and Hodgkins, Manchester; also a standard *Fuchsia*, the head having been grafted with six different varieties, all flowering well. It was exhibited by Mr. McMillan, Broadmeadows, Berwick-on-Tweed. In the fruit tent was an exhibition of bees, large separate tents being provided for the table decorations and vegetables. Of the cut flowers and decorations a "specialist" must write. Also as yet demanding notice are the

VEGETABLES.—Of these the display was a capital one, but on the whole the examples were fully too large to be considered of the first London quality. Cabbages were immense, Leeks remarkably fine, some being blanched a length of nearly 2 feet; Turnips and Carrots clear and excellent; Cucumbers large, Tender-and-True winning every prize; Curled Kale first-rate, Celery second-rate, Onions third-rate, and Potatoes fourth-rate, or many of them, a few dishes and collections being excellent. The finest round Potato in the Show was Turner's Schoolmaster. The best collection of vegetables was the first-prize tray of Mr. Bloxham, gardener to Sir P. Duncombe. It consisted of Cucumbers, Cauliflowers, Carrots, Potatoes, Onions, Celery, Globe Artichokes, Turnips, Peas, and Kidney Beans, all good. The premier prize for twenty varieties was won by Mr. Sandford, gardener to the Earl of Bective, who had Broad Beans, Vegetable Marrows, Tomatoes, Parsnips, Savoys, Leeks, Cabbages, Brussels Sprouts, Kohl Rabi, and Kale, in addition to the ten varieties above named. Other successful exhibitors of collections were Messrs. Nicholl, gardener to J. A. Corry, Esq., Botcherby; Craig, Wykeham Abbey; Bell, Shand, Younds, and Culton.

Special prizes offered by Mr. Wm. Bull.—First prize, a silver cup, value fifteen guineas, second ten guineas, third six guineas, for twelve new plants introduced and sent out for the first time since the commencement of 1874. First, T. M. Shuttleworth, Esq., Preston, with a splendid collection. Second, Mr. J. Hammond, Brayton, Carlisle. Third, Mr. J. McIntyre, gardener to A. A. Richardson, Esq., Lisburn, Ireland.

In the open-air exhibits we noticed useful greenhouses and serviceable frames from Messrs. Boulton & Paul, Norwich; a capital lean-to house with rafter ventilation from Messrs. Rich-

ardson & Co., Darlington; a fine octagonal house from Messrs. Mackenzie & Moncur, Edinburgh (sold on the ground for £170); garden seats from Messrs. Haughton & Thompson, Carlisle; boilers and lawn mowers from Messrs. Hartley & Sugden, Halifax; also lawn mowers from Mr. Parkinson, Ripon; summer houses and wirework from Messrs. Gibson & Sons, Edinburgh. Also wirework from Messrs. Bramhall; an imposing stand from Messrs. Goulding, manure manufacturers, Dublin and Cork; and an extensive seed stand, &c., from Messrs. Little and Ballantyne.

Such was the Show—a great Show unquestionably; but it is to be feared that the fine weather following the opening day, with the counter-attractions of the agricultural show, cannot render it a great success. One thing is clear, the officials—Mr. Baxter Smith, Mr. Thomson, Mr. Mounsey, and the Committee—have worked hard, and their assistants have been zealous—almost too zealous at times, carrying out their instructions in the unbending inflexible style savouring of military police.

Although the opening day was so disastrous the two following days were fine, and the railways brought thousands of visitors to the city and Exhibition. On the first day (Thursday) the receipts were £133 14s. 6d., the second day £494 6s., and on the third day £402, making a total of £1030 0s. 6d.; and this with the contributions and the rent of marquees for refreshments will, it is hoped, result in what the promoters so richly merit—a financial success. The prize-money was paid on Monday the 10th inst., the day on which the exhibits were removed.

At the luncheon in the marquee Lord Muncaster presiding, the guests had to approach the banquet through a puddle, sit on wet seats, eat soaked bread, wear their hats at table, and unfurl umbrellas.

NOTES AND GLEANINGS.

MONDAY, the 3rd, was a very wintery day, the thermometer never rising above 44°, and at night it descended to 35° at 2 feet above ground. Rain commenced on the evening of the 2nd, and continued incessantly for more than twenty-four hours. On the night of the 4th, after a bright day, the mercury at 2 feet from the ground fell to 33°. The grass was frozen stiff on the mornings of the 4th and 5th, but nothing seems to have suffered excepting the points of *Coleus* a little, and the flowers of *Commelina cœlestis*.—WILLIAM TAYLOR.

—We recommend cultivators of the *PETUNIA* to add to their collections some of Messrs. Carter & Co.'s "green-edged." The flowers are the finest and most varied we have seen.

—THE Water Lily tank and the fine Tree and other Ferns associated with it afford one of the most pleasing features of the CRYSTAL PALACE. *Nymphaea dentata* major and *Devoniana* contain many fine flowers, but *N. coerulea* has not flowered freely this year. It is noteworthy that these fine plants are treated as biennials. Seed is sown at the present time, and the plants are kept growing in small pots in a small aquatic house throughout the winter, and are transferred to the flowering tank in the spring. Seed has just been gathered from them and sown, and the flowering plants will be eventually removed. It is a little singular that these plants will not grow if much water is permitted to fall on the leaves. In the centre of the tank is a large fountain, which plays for a short time daily; near this fountain the Water Lilies will not grow—indeed, scarcely exist, but beyond the radius of its falling spray they grow luxuriantly.

—ONE of the most attractive of variegated plants for growing in pots for general decorative purposes is the VARI-GATED *HEMEROCALLIS*, *H. flava* variegata. We recently saw a good stock of it in Mr. Laing's Nursery at Forest Hill, and Mr. Thomson also grows it at the Crystal Palace. The leaves arch over in a most graceful manner, and their variegation is very pure and clear. It appears to come in the best condition when grown in an intermediate house or a warm greenhouse.

—A YORKSHIREMAN writes to us that he has seen it recommended by a great "authority" that *CEANOTHUS AZUREUS* should be grown in every garden having a sunny south wall. Our correspondent thinks the writer's experience of the plant must be limited, or he would have known that there are hundreds of gardens where, if planted, it would be cut down by the severity of the winter. It is a beautiful wall plant in the southern counties, but is too tender for cold districts.

—It is gratifying to notice that the valuable collections of plants employed in the decoration of the Agricultural Hall, and where they remained for more than a week, sustained little or no injury. The ventilation of the immense building appears to be excellent, and it has proved itself well adapted for the purpose to which it was devoted last week. The spikes

of *Gladioli* continued attractive throughout the period, and even such choice and tender flowers as those of *Dipladenia Brearleyana*, which were inserted in the moist carpet of *Lycopods*, continued fresh and bright for nearly a week. The decorations attracted large numbers of visitors, and we are informed that the great "floral concerts" have been very successful.

—Two cultivators from different districts inform us that Crawford's EARLY PEACH has resisted the inclement weather of the past spring better than most other varieties, and that this handsome-looking American sort is bearing good crop on the open wall.

—In July and August, writes a Yorkshire correspondent, our shrubberies exhibit too much green, too little colour. *Deutzia crenata* flore-pleno forms a fine upright bush 6 feet or more high, bearing profusely its fine, depending, double pinkish flowers, and is very fine; *D. scabra* is also fine. The ligneous Meadow-Sweet *Spiræa* are grand summer-flowering shrubs, especially *S. grandiflora*, white; *S. arifolia*, very graceful; *S. callosa*, rose, and var. *alba*; *S. eximia*, red; *S. bella*, rose; *S. argentea*, with silvery leaves; *S. Douglasi*, pink; *S. opulæfolia* *lutea* and *S. salicifolia* *carnea*, with many others. They grow freely and flower profusely in any free soil.

—ABUTILONS appear to be increasing in popularity for decorative purposes. The dwarf-growing free-flowering varieties, such as *A. Darwinii*, *A. roseiflorum*, &c., recently introduced appear to be great acquisitions, and the new yellow variety *A. Lemoinei* *syn. La Boule d'Or* is a plant of considerable promise. But perhaps the most useful for winter flowering is the white variety *Boule de Neige*, which should be grown largely where cut flowers are in great demand. It is not known by everyone that that sort forms a capital stock on which the pendulous mottled *A. vexillarium* may be worked. Mr. Spinks of Aston Park, Birmingham, thus grows *A. vexillarium*, as also does Mr. Thomson of the Crystal Palace, and the bright weeping standards are ornamental even when not flowering, and when in bloom are handsome dinner-table plants.

—Now that wild flowers are so scarce, what few we have at this time of year being completely obliterated by the long-continued rains, it is pleasing to see amid so much green something that will fix the eye. Few subjects can vie with the bright coral-red berries of the ROWAN TREE OR MOUNTAIN ASH (*Pyrus Aucuparia*), its fine umbrageous head of Fern-like foliage, from the points of its shoots bearing its clusters of berries, are far more enduring than flowers, attractive objects in shrubbery, park, and forest scenery, such as ought not to be neglected in making provision for when planting time arrives. It will grow anywhere; its upright and weeping forms, with the yellow-berried, deserving a place in the most select arrangements of trees of moderate growth. Also very conspicuous just now, as they have been for many weeks, are the bright scarlet berries in massive bunches of the scarlet-berried Elder, which, seen at any distance among green foliage, are very showy and effective, especially if in front be a good breadth of Darwin's Barberry; its clusters of shining deep purple berries having in contrast with the scarlet of the Elder a fine effect.

—LIMNOCHARIS HUMBOLDTI.—It is a pity this lovely and most floriferous aquatic is not more employed for outdoor work. It is one of the most effective plants for a tank or quiet bit of water. The small outdoor tank near the Victoria house at Glasnevin is nearly monopolised by this plant, and at this season few features of the garden are more attractive to the visitors. The tank is only about 10 feet in length and 3 feet in breadth, and in this circumscribed space we counted the other day over 160 flowers floating on the surface. —(Irish Farmers' Gazette.)

WINDSOR CASTLE.

LAST week a princely garden in the north was described and the masterly practice of its manager was noticed. Such a record cannot fail to stimulate other persevering and ambitious workers (for if a gardener is not ambitious he cannot excel) in a kindred but lesser field, and to urge them on in the path of duty, which sooner or later brings a reward. This week a garden in the south may be fittingly noticed—a garden which will always command attention—the garden of our Queen.

Windsor Castle is a majestic pile, and the view from the celebrated terrace, which is shown in the accompanying illustra-

tion, is one of dignity and grandeur. The chief residence of a long line of British monarchs is typical of the kingdoms which owe allegiance to the British crown—strong yet peaceful, and varied in elements of fertility and beauty. The views both from the terrace and on it are such as to command admiration, such too as are enjoyed not by the Royal Family alone, but also by thousands of Her Majesty's subjects, for the terrace is open to the public on the afternoons of Saturdays and Sundays, a privilege which again typifies the most cherished treasure of the nation—freedom.

From the commanding eminence is seen on the one hand the Crystal Palace at Sydenham and the Box Hills, and on the other the distant woods of Stanmore and Cliveden. The great schools of Eton and Harrow are still nearer, embowered in the foliage of a boldly undulated and richly wooded district. Towards the south the Broad Walk with its noble avenue of magnificent Elms stretches away into the distance, and to the north the precipitous side of the hill on which the Castle stands forms one of Nature's bold terraces, which the one on which we stand, grand as it is as a work of art, is puny by comparison. This, the eastern terrace, the Royal flower garden, is about 3 acres in extent, and is semicircular in form. The Broad Walk, which next the Castle is of course straight, is continued round the enclosure and close to the embattlements. From this elevated walk flights of steps conduct to the level of the garden—the plateau of flowers below. The slope of the terrace between the flights is of turf, as is the general level of the garden, soft and fine, and in the highest condition of keeping; two broad gravel walks also intersect the enclosure. In the centre of the garden is a fountain, but not a majestic one; by the sides of the walks are several examples of statuary; on the lawn are specimen shrubs and Conifers, and on the north side near one of the entrances is an orangery; the other entrance is at the corresponding corner of the Castle, the south side. The orangery is placed on the lowermost ground of the terrace, and towards this structure the lawn has rather a bold slope, on which are beds planted wholly with hardy Heaths. Mr. Jones some time ago suggested the erection of another structure near the orangery for the display of ornamental plants, and it is a little singular that when his plan of the proposed alteration was being considered and compared with some old plans of the terrace, it was found that a similar addition had been proposed eighty years ago, so similar that there was only 6 inches difference between the widths of the houses which had been suggested in the two instances. A want of time for consideration of the matter cannot therefore be urged as an excuse that a structure suitable for beautiful plants worthy of being associated with this beautiful terrace is not yet erected.

The floral decorations of the terrace are varied, and on that account are the more enjoyable. A long narrow border near the western boundary wall contains old-fashioned plants—garden (not exhibition) Roses, Antirrhinums, Phloxes, Mignonette, &c. The flower beds on the lawn are of considerable size and appropriately plain in shape; they are extremely attractive. Most of the beds contain shrubs and Conifers, Yews in variety, Retinosporas, Thujas, Euonymuses, &c. Between the shrubs are planted such rather tall-growing plants as Ageratums, Pentstemons, and Petunias, surrounded with Geraniums and edged with dwarfier plants of contrasting colours. The most effective Geranium on the terrace is Waltham Seedling; its profusion of crimson trusses are rich and glowing. Trentham Rose is also well and worthily grown, for its soft yet cheerful colour is very pleasing. As a scarlet Vesuvius is employed, and as a rosy pink Mrs. William Paul. Some of the most effective combinations in the terrace garden were centres of Ageratums interspersed with shrubs, with a broad and brilliant band of Waltham Seedling Geranium and an edging of Geranium Manglesii mixed with Lobelias. A centre of Cineraria maritima, band of Iresine, and edgings of Golden Feather and Lobelias had a fine effect. In one portion of the terrace are examples of carpet bedding, which looks attractive enough when closely examined, but it is not nearly so well adapted for the position as is the grouping of flowers in large masses and distinct colours. The many shrubs in the beds and specimens on the lawn require more supporting power than carpet bedding affords, and they also at the same time effectively prevent the bold masses of flowers from being in any degree overpowering. Near Her Majesty's apartments Mignonette is growing freely, a sweet simple flower which is now absent from many flower gardens of lesser note than this. The effect produced by the skilful grouping of trees and shrubs

is quite worthy of the fine terrace on which they are disposed, while the perfume from the older flowers—Roses, Phloxes, and Mignonette, render this beautiful flower garden additionally delightful.

From the terrace a broad drive leads through the Home Park, leaving Frogmore House on the right and the Royal dairy on the left, and conducts to the gardens. Near the Castle several acres of the park are kept as a lawn. The drive for a short distance is near the edge of the great natural terrace, where glimpses are obtained of the slopes below. For quiet, secluded, romantic scenery the slopes of Windsor are pre-eminent. At the bottom of the great dell a cool stream-meanders, reached by a series of twisting walks on the otherwise precipitous side of the declivity, which is probably 200 to 300 feet deep. The trees in this dell are thick and luxuriant, and Ferns flourish in their congenial home. A rockery of considerable extent is also formed, and from amidst the boulders dwarf Pinuses, Ferns, and other plants spring, while a streamlet trickles down its rugged bed.

The park, between the slopes and the gardens, contains some magnificent trees. Elms predominate. There are also old Oaks—historical trees, and thriving Wellingtonias. The drives through the park are many miles in extent; they are smooth, clean, and in excellent order, and the grass is kept as a lawn for 4 or 5 feet from the gravel. The labour incurred in the keeping of these extensive drives and their smooth green margins led Mr. Jones to devise a means of expediting the work, or in other words in having it better done and at less cost than could be effected by mere animal and manual labour, and he has succeeded admirably. The rolling of the gravel and the mowing of the side lawns is done by steam power. A combined engine of eight-horse power was designed by Mr. Jones, and constructed by Messrs. T. Green & Sons of Leeds. This rolls the gravel better than any horse roller could do it, and draws the mowing machine at the same time. It is also constructed to act as a fire engine and to work at the saw table. It is found very valuable, and is a credit to the designer and manufacturer.

The kitchen gardens at Frogmore are very extensive; the forcing houses and pits are also on a scale of considerable magnitude. The chief range of glass is 1132 feet long and 20 feet wide. The houses are neat, light, and durable. They were constructed for use rather than ornament, yet their very utility and good condition have a pleasing appearance. Every house, too, is occupied. There is not an inch of glass too much at Frogmore; indeed not nearly enough considering the enormous demands for fruit, flowers, and vegetables, and a large addition of glass is projected—something worthy of Royalty, and which it is hoped will be carried out. Formerly much of the Castle decorations were done by professionals, but now all the plants employed are grown in the Royal gardens, and everything is done under Mr. Jones's supervision. All the fruit and vegetables and flowers required by the Royal household, whether that be established at Windsor, Osborne, or Balmoral, have to be grown at and sent from Frogmore. That demand is enormous. Fruit has to be sent by the hundredweight, and vegetables by the truckload, and flowers in the same proportion. The great establishment is taxed to the utmost, and the best of management is required to sustain the supply. Every corner of every house and pit is occupied in the most profitable manner possible, and every inch of ground is closely cropped.

It is not necessary to refer in detail to the contents of the several houses. The structure at the east end, which is higher than the general range, is a tropical plant house, containing Bananas in a fruiting state and many ornamental-foliaged and flowering plants. At the other end of the range is the Camellia house; and it is noteworthy that although the aspect is south and the glass not shaded, that there is scarcely a scorched leaf to be seen, but on the contrary the foliage is of the richest green. That the plants receive the best of attention is undeniable. The remaining houses in the range are devoted to fruit culture—Vines, Peaches, and Plums. The fruit from many of them has been cut and gathered. The Peach crop has been good, as a remnant of it proves, a few remaining Barrington Peaches weighing 10 ozs., and some have been gathered of the extraordinary weight of 13 ozs.—right royal Peaches as none can deny. The trees are in admirable condition and contain not a semblance of red spider. Some of the vineries are planted with young Vines, which are in an excellent and highly promising state; others are older, yet bear valuable crops of useful fruit—valuable at least until the

younger Vines are established to sustain the supply, when the older will be removed by degrees, for some of them are beyond renovation. It is necessary to proceed cautiously in this matter, for there must not be any failure in the supply during any day in the year. Neither is there likely to be; for it is certain, judging from what has been already accomplished and the soundness of the preparations for the future, that the supply of Grapes at Frogmore, ample as it may have been in the past, will be still greater and better in the future. The young Vines which have been planted are making excellent growth, and some of them are bearing wonderful crops. Late Grapes continue until the 1st of April, when the first house of fruit from Vines in pots are ripe: and so the work goes on in one continual round. On the back walls of some of the houses Tomatoes are grown and in others Guavas, and even the little porches between the houses are filled with Grapes. Behind

this range of glass (in the centre of which is the gardener's commodious residence, in which Her Majesty has private rooms) are the young men's living rooms, reading room, fruit stores, Mushroom houses, packing sheds, and other offices requisite for the conduct of the establishment.

Between this chief range and the boundary wall is a large enclosed space filled with smaller houses for Vines, Cherries, Cucumbers, Melons, Strawberries, Kidney Beans and plants together with a great extent of pits for Pines, Potatoes, and general purposes. Pines are grown in deep brick pits, no path inside. The bottom heat is afforded wholly by leaves, and the plants are all planted out. Their number is great and their quality still more striking. Nowhere in the Queen's dominions are finer Pines grown than in the Royal Gardens. They are Smooth Cayennes, and it is not now and then only that a fruit of 8 and 9 lbs. weight is cut, but such fruits are



Fig. 45.—WINDSOR CASTLE—VIEW FROM THE TERRACE.

the rule. The simplicity of culture adopted, and the uniform and great success achieved, is something that the manager and his assistants may justly be proud of. They may be equally proud, too, of some houses of Grapes. They are half-span-roofed houses. The Vines are in splendid condition, the crop enormous and excellent, and the roots a network of feeders close to the surface of the ground. They afford a remarkable instance of the power of mulching, and these Vines afford altogether a fine example of Grape-growing.

Houses are devoted to Azaleas, ornamental-foliaged plants, flowering plants, and Ferns. There are also a few Orchids, and it is clear that everything receives skilled attention. Strawberry and Kidney Bean forcing is a great affair at Frogmore. Upwards of nine thousand pots of Strawberries are forced yearly, and many plants are now being planted out in pits to produce a supply during the time immediately preceding the ripening of the outdoor crops. Pits of Strawberries thus grown last year proved very valuable. Pit after pit are filled with Kidney Beans, and hundreds are also grown in pots for ensuring a supply from October until July, when the outdoor crops are in use. Mohawk and Fulmer's Forcing are the most popular varieties. Cucumbers are always in season, the most esteemed variety for summer and winter use being Hedsor Prolific. It is of medium size, a great bearer, handsome, and of superior quality. Other pits are devoted to salads and

other vegetables, and every favourable wall space is covered with Tomatoes. Asparagus is forced in beds, hot-water pipes being laid between the beds and shutters placed above them. The beds are forced every alternate year. On the borders in this enclosure are hundreds of Bouvardias, Salvias, Habrothamnuses, Solanums, Spiræas, and similar plants, which are potted in the autumn for winter and spring. They are much better when thus grown than when kept in pots during the summer. There are beds also of Stocks, Asters, Zinnias, &c., for affording cut flowers. These are extremely fine, some of the Asters being extremely rich in colour and well sustain the credit of the seedsmen—Messrs. Veitch.

On the boundary wall facing the south is to be seen what is a rarity this season. Scarcely ever was the crop of Peaches and Nectarines on walls so scant as during the present year, and trees really well furnished with fruit are few and far between. By far the finest crop we have seen is on this wall. The trees are heavily laden with fruit—in fact, the crop is a full and fine one. This is to be attributed to efficient protection and a sufficient yet intelligent use of canvas blinds. Mr. Jones has great cause to be proud of this splendid wall of Peaches. It is the reward of protecting thoroughly. Half protection, which was only within the means of many gardeners, was quite inadequate during the extremely inclement spring to save the crop of this tender and much-valued fruit. The wall

is upwards of 1000 feet in length, and a commencement has been made towards covering it with glass. Behind this wall is the garden stabling, and near it has existed for a long time an eyesore—a blotch on the fair face of this fine park. It was a corner of rubbish and a sluggish pond. The rubbish has been removed, the pond is being filled up, and the ground made preparatory to planting a "standard" orchard; not an orchard of standard trees, but of dwarfs of every known sort of Apples correctly named as a "standard" collection. Many trees have already been planted, and they are thriving admirably. The same plan is projected with other fruits—Pears, Plums, and Cherries. This is quite independent of the fruit supply for ordinary purposes. The object is somewhat of a national one, and if Mr. Jones is able to carry it out on the complete scale he has projected it will be worthy of the Royal garden and of the nation.

The kitchen gardens yet remain to be noticed—necessarily briefly. They are upwards of 30 acres in extent in five or six walled enclosures. Originally each garden had its separate fruit and name. Thus there was the Strawberry garden, the Cherry garden, the Plum and Pear garden, and so on. The plan is now undergoing a change, or rather the system of planting. Many of the wall trees are old and decrepid, and young trees have not flourished well. In the renewal the borders which have supported stone fruits, as Cherries and Plums, are to be planted with Pears, and *vice versa*; and the Strawberries are being removed—a wise arrangement, which is already proving its worth. On the north sides of the walls are Currants and Gooseberries for late use—full and valuable crops.

Vegetable culture is carried out on a great scale. The system resembles that adopted in the London market gardens—that is, not an inch of ground is wasted, but the best that is possible is made of every crop. The soil is heavy, costly, and hard to work; but by taking advantage of its peculiarity and the weather the supply of vegetables is maintained, and the walks and quarters are kept clean and free from weeds. Down the central walk are rows of dwarf trees trained as low arches. They have a novel appearance, but are not profitable. A few arches trained over the walk would enhance the appearance of this part of the garden, and fruit would probably be produced on them.

In the management of this great garden—together with the supervision of the Home Park—unremitting attention and well-directed skill are requisite. Special and substantial marks of recognition conferred on the chief manager afford the best evidence that these are forthcoming, and that Mr. Jones is equal to his great and arduous task. The staff of men is about 150. The established departmental foremen have comfortable lodges, and every attention is paid to the welfare of all. Her Majesty takes much interest in her garden, and her thoughtfulness and appreciation render the work of all pleasant—a labour of love.—J. WRIGHT.

AUTUMN FLOWER SHOWS.

WHAT a pity it is that many societies give horticultural exhibitions at all! Numbers of places hold what they call flower shows, which may be so in name, but are not so in reality. There is a tentful of some sort of plants and flowers, a good band, a refreshment tent, and fireworks to end up with. This is the bill of fare; but supposing the flowers were left out altogether, would it not be far better? They are entirely secondary, or tertiary, or anything else you like to call them, to the band and fireworks.

The prizes are contemptible, and indeed so poor that no one cares to send their plants or to cut their trees for the sake of winning these. Let me take Sherborne as an instance. They held their show last week, and always attract a great number of people. They have a good band, and fireworks to end up with; but as to flowers, what do you suppose they offer for Roses? Why, for twenty-four trebles (open) the first prize is £1, and to be allowed to compete for this valuable prize, unless you subscribe, you have to pay an entrance fee of 2s. 6d. Then for amateurs for twelve blooms you are offered 10s., and have to pay 2s. 6d. entrance fee also. For Gladioli similar amounts are offered. Now, as the bulbs cost from 5s. to 7s. 6d. each, it is of course not exceedingly likely that an amateur will cut his spikes and spoil his garden for the short time the Gladioli are in bloom, pay 2s. 6d. entrance fee and his railway expenses, all for the chance of winning 10s. At Exeter the other day I regret, and as a member of the committee am ashamed to say, that we fell to a lower depth still, offering

7s. 6d. as the first prize for twelve Roses—this, too, by a society that only allows subscribers of a guinea to exhibit. At Dorchester, where I was particularly requested to show, and where I sent two lots of Roses, my man could not for a long time even obtain a pass ticket, and it was only after much deliberation and with great reluctance that one was given. Mr. Corp of Oxford, who went all that way for a trumpery prize, was positively refused one, and had ultimately to go to the Secretary's house before he got one. Oliver Twist asking for more soup did not more astonish the guardians than did the equally modest request of my man for a pass ticket at my own county town. "Why, whatever shows can you have been at before to expect this?" was the question put in reply to the astounding request. "Well, most places, I think; London, Crystal Palace, Torquay, Hereford, Birmingham, Exeter, Nottingham, Huntingdon, Weston, and Taunton—in fact, everywhere except here, and this is my first and last appearance, so let me have a pass as a farewell." "Why do you show at such places?" I fancy someone may ask. Well, when you have polite letters asking you to exhibit, and you do not like to refuse, and so go at a dead loss to yourself, expecting at least decently civil treatment. But such, alas! is the exception not the rule.

I hope you will print this letter just as it is, for I feel sure it will do me no harm, as I shall not expose myself to such treatment again; and the appearance of these remarks may, perhaps, do good, by opening the eyes of the authorities of local shows as to the liberality of their treatment of exhibitors.—JOHN B. M. CAMM.

STRAWBERRIES.

My reason for discarding Black Prince is that I do not think it is worth the trouble of eating, and I certainly should never put a dish of it on my table. Keens' Seedling is a good hardy variety, but of no great quality, and did not succeed well with me; nor do I think I have ever lately eaten one in other persons' gardens that I thought worthy to be named with Sir Joseph Paxton, Lucas, or Dr. Hogg.

If the only object of growing Strawberries is to make preserves, well, by all means go in for quantity rather than quality; but Vicomtesse Héricart de Thury makes far better Strawberry jam than either Black Prince or Keens' Seedling, and the better the flavour of the fruit the better the quality of preserve. There is as much difference between Strawberry jam and Strawberry jam as there is between a pot of Green Gage preserve and one made from blue Orleans Plum. However, tastes differ; and if a kitchen gardener wishes to grow only for preserving purposes, and thinks Black Prince and Keens' Seedling will furnish the housekeeper with most pots, by all means let him do so. I never said they were worthless; I merely said I have discarded them, just as I am discarding Sir C. Napier, Souvenir de Kieff, and others, because I do not think them worth growing in my soil. I do not care, again, for mere size in fruit; there must be quality, though if combined with size, and what after all is of no little importance when set on the table, form and colour, it enhances the value of the Strawberry. La Grosse Sucrée is a beautiful Strawberry to look at, but it has not in my mind flavour enough. I am sorry to see by the last number of the *Journal of Horticulture*, Sept. 6th, that Traveller is in some soils uncertain. With me it is certainly most promising.

I do not think, as a rule, we pay sufficient attention to the quality of the leaf of the Strawberry plant, the length of footstalk, habit of development of crown, &c. Some sorts have stiff leaves or short footstalks that do not flag with the sun, and are more capable of resisting red spider and dry weather; others have soft foliage and long stalks, with spreading habits, and will not succeed in light dry soils, although in a rainy season they may make very strong growth. Sir C. Napier is one of the latter class—soft leaves, long footstalks, soft fruit, a free bearer, but—and it is a big but—inipid, rots in wet weather, burns up in dry. Dr. Hogg with me has such a tendency to make runners that it hardly ever makes good crowns, and it is almost impossible to keep the runners out off. It was curious this year to notice the difference between six beds of six different kinds all planted at the same time and treated in the same way—viz., Lucas, Sir J. Paxton, President, Filbert Pine, Dr. Hogg, and Bonne Bouche. Dr. Hogg has run all in a mass the last few weeks, and the ground has been too wet to get on to it to clear the runners, and the fine days too few to spare the time. President has made

fine runners, but also good crowns; the same of Sir J. Paxton and Lucas. Filbert Pine is a good fruit, but weak habit in my soil, and requires a stronger soil and good management. Bonne Bouche is a good sort but uncertain.

I am sure "AMATEUR, Cirencester," is right when he says with proper care and attention Strawberry beds may be made to last many years. One of mine has been in bearing for more than ten years—I think twelve, but I am not quite certain—and is only this year condemned, not because it has ceased fruiting, but because the whole quarter has to be cut up.—C. P. PEACH.

In the present season we began gathering from Black Prince the last week in June; then followed Keens' Seedling, President, Sir Joseph Paxton, Refresher, and Reeves' Eclipse. Dr. Hogg will persist in coming with a white end, giving it the appearance of an unripe fruit, which detracts from its quality, otherwise it is a noble variety and one of the best Strawberries I know; it deserves extensive cultivation. British Queen with me has the crown and shall wear it. Elton Pine I am still gathering (7th September). Through the season they have been in succession in the order named; finer fruit I could not desire, and the crop everything that could be expected considering the season. The soil is a strong retentive loam resting on a clay subsoil.

One of the best Strawberries for preserving is the Roseberry. It is seldom seen now. We do not hesitate to preserve any kind, but take them as they ripen, but I prefer Sir Joseph Paxton and Reeves' Eclipse. They are firm useful kinds, good for market purposes, bearing carrying well.—FRAGARIA.

CHESHUNT HYBRID ROSE.

I HAVE just seen in a letter from the Rev. C. P. Peach that the writer has doubts as to the merits of the Rose referred to above. I ask permission to reply, chiefly that I may have an opportunity of expressing the sincere and universal regret which Mr. Peach's illness and absence have caused to the floral brotherhood, together with our heartfelt hope that we may welcome him next season in our gardens and at our festivals; and to state, secondly, that had he seen the Cheshunt Hybrid as it has bloomed and is still blooming in my rosery, he would agree in pronouncing it one of the most beautiful and bountiful of Roses.—S. REYNOLDS HOLE.

LILIUM AURATUM CULTURE.

MR. WOOD, Sir Erskine Perry's gardener, has four plants, single bulbs, in 8-inch pots, and about 140 blooms on the four spikes, and magnificent blooms they are. The best plant has forty-two blooms on the stem, and with the pot is 10 feet 6 inches high.

Mr. Wood's mode of culture is to pot the plants as soon as they cease blooming, shaking them clean out of the old soil and potting them in loam, leaf soil, peat, and road sidings, chiefly sand that is washed off the roads, in equal parts of each: if more of any of the ingredients is used it is peat. The bulbs are potted very low—more than half way down the pot. The soil is then placed over them to the top of the pot. They are then plunged on the north side of a wall, and sheltered from rains or snow by light screens such as pea sticks or anything not perfectly watertight, and there they remain until the growth appears through the soil, when they are removed to a cold house. When fairly in growth strong liquid manure is used every day until the blooms expand. As this is the period for repotting, a record of Mr. Wood's successful practice may be useful to other cultivators of this fine Liliium.—W. MOWERAY.

I ENCLOSE you a photograph of a Liliium auratum of, to me, an unusual kind which bloomed about a month ago. There were seventy-three blooms all out at once upon a single stem; the cluster of flowers forming almost a cube 14 inches each way, but the blooms were mainly on two sides—back to back—and at the top. The stem was 4 feet 10 inches in length. At the bottom it was about an inch wide and half an inch thick. At the top, where the blooms were, it was 3 inches wide and about one-sixteenth of an inch in thickness. I enclose two sections of the stem, the smaller one being taken 27 inches from the bottom, and the wider one 48 inches from the bottom. The blooms were from 4 to 5 inches in diameter, beautifully formed and nicely marked. The photograph will not give you any idea of the beauty of the blooms, as they were falling

before the plant was taken to the photographer, but it will give you an idea of the plant. Every bloom would have been perfect, but there was not room for all of them to expand fully. I obtained the bulb from Mr. Granger, florist, Ashton-under-Lyne, last spring, and I understand that he has grown similar plants for three or four years, but I have not heard of them elsewhere, and I have searched your volumes for four or five years without finding any allusion to them.—W. M., *Thorncliffe, Dukinfield.*

[The stem of the Liliium is fasciated, and the flowers are on each side of the stem thus flattened. We never saw before an instance in the Liliium, but it is of frequent occurrence in other plants, especially Asparagus.—Eds.]

HEREFORDSHIRE CIDER FRUITS.

I THINK it would be a subject of great interest to those who like myself add to their other hobbies some knowledge of the best cider and perry, as well as dessert and culinary fruits, and at the same time prove of no small advantage to the public as bearing on the successful manufacture (at present a comparative failure) of a national beverage, if our brother pomologists would avail themselves of the opportunity our Journal is now bringing prominently forward, of comparing notes on the leading varieties, not only those now flourishing in the heyday of their maturity and fecundity, but, scarcely less interesting study, those gradually subsiding, slowly but surely, into obscurity and decay.

May I give you a practical illustration of my object? I would venture to ask of your readers for a description and perhaps afterwards for a sample of one of the most celebrated—if not the cider Apple *par excellence* of Devonshire, the Royal Wilding. So celebrated was this Apple at least some 150 years ago that an old writer of that period states, "No less than 200,000 grafts of that variety were propagated in Devonshire and the neighbouring counties in ten to fifteen years."

Now, the Royal Wilding is stated by Batty Langley, the author I have just quoted, to have been raised in Devonshire, and gives a plate and description of the Apple, which if correct does not at all tally in size or shape with the Royal Wilding of Herefordshire (an Apple I may mention *en passant* we never dream of making into good cider, except in combination with other fruits); indeed so marked is the difference, that until I am in a position to draw a comparison I must go so far as to question their being the same variety.—THE HEREFORDSHIRE INCUMBENT.

[We should be glad if some Devonshire correspondent would send us specimens of Royal Wilding to this office.—Eds. J. or H.]

NOTES FROM CORNISH GARDENS.

LAMORRAN—*Supplementary.*

EVERYTHING in the garden at Lamorran bears the stamp of originality, affords evidence of an intelligent grasp of the nature and requirements of every tree and plant, and shows that it must be owing to want of thought as much as to want of pains that better general results are not obtained in so many other gardens. Some Grape Vines planted in an orchard house may be usefully turned to as an example of this: with the exception of shortening and thinning of the wood after the leaf falls the growth is suffered to ramble about untrained and almost unchecked; the berries are thinned, but the bunches are left on with what at first sight appears an almost reckless profusion. There they hang so thick as often to touch each other, large clusters colouring and swelling capitably, without a sign of shanking or disease of any kind, excellent bunches of Alicante and some of the best fruit of Lady Downes' Seedling that I have seen this season. Owners of small gardens having little professional assistance would do well to apply this sensible, natural method of Grape-culture in their own practice. To make it quite clear its chief points may thus be set forth: Let the roots have plenty of rich soil. Encourage every shoot to grow as long and strong as it will. Avoid pinching and nipping off any of the growth excepting when it becomes much crowded, then thin slightly. Give copious supplies of water and air—plenty of air night and day when the weather is warm and genial—closing your ventilators only to exclude cold or high wind. Prune away weakly growth and thin-out and shorten strong growth in winter, but do not prune to a single eye, rather leave 6 or 8 inches of stout young wood with two or three plump buds, and you will have healthy Vines

and plenty of Grapes. This summary of cultural points is probably not exactly a correct statement of Mr. Boscawen's practice, but it is just what experience prompts me to jot down here as a serviceable and timely hint.

Among the Vines in the orchard house were some Roses, just a few choice Teas, which afford quantities of perfect flowers earlier and later than they are to be had in the open air. They are planted at intervals along the sides, and the growth of some trained up under the roof, while others are left with the growth untrained to form bushes. Both plans are good in their way, but when space is an object it is better to turn the roof to account and to reserve the space beneath for other things. Here the space is fully taken up by a fine batch of *Amaryllis*, all seedlings raised by Mr. Boscawen from careful crossings, just bursting into flower full of promise. Lilies, too, were blooming in pots for seed, each flower being experimentally impregnated with pollen brought from flowers of the sturdy plants growing in the open air among the *Rhododendrons*. The *Amaryllises* are never suffered to become dry at the root, nor are the pots laid on their sides, as is often done, but as the growth ceases less water is given, and it is altogether withheld during the period of rest; yet the soil can never become thoroughly dry, as the pots are either plunged or placed upon moist soil. I quite approve of this plan, having successfully followed a similar one in my own practice. The South American stove bulb *Griffinia hyacinthina* was in excellent condition, with numerous other plants not often met with, altogether making the orchard house as remarkable in its way as the other features of the garden. A Bamboo, for many years a flourishing plant upon the open slopes, had seeded and died, like so many others in the south and in Ireland. This is much to be regretted, as it is equally striking and ornamental. *Phormium tenax* from its flourishing condition is evidently perfectly at home here, and the Pampas Grass is something wonderful; so large are the clumps of it, and so strong is the growth, that it produces an effect as bold and prominent as the largest shrubs.

The Cornish Gilliflower, which originated in this neighbourhood, was well represented by a tree of it growing among other Apples, and which was remarkable for its free clean growth heavily laden with fruit and the handsome form of the tree itself. It is much valued as a winter dessert fruit.

In the kitchen garden my attention was drawn to a peculiar sort of *Asparagus* which never seeds, but is viviparous, producing numerous young plants upon its branches. Its origin is somewhat doubtful. It has been here under culture for some twenty years, and is considered infinitely superior to the ordinary sort, being much earlier and yielding large shoots abundantly.—EDWARD LUCKHURST.

DESTROYING WEEDS ON GRAVEL WALKS.

Soak them with carbolic acid about the strength of one of acid to forty parts of water. I have found it successful, but the process must be repeated at least once a year.—E. C. B., *Holton Park*.

AUTUMNAL ROSE SHOWS.

THE county of Sussex is rapidly becoming a great Rose-showing county. It hardly equals, perhaps, at present, Kent and Surrey, its more metropolitan and city-bred sisters, although it owns the great London-super-Mare. Still Rose shows are certainly extending, and large Rose-growers being multiplied. The Horsham Rose Association, started this summer, made an excellent start, and can already boast of a lengthened list of members. During the last fortnight Roses have been shown of high quality both at West Grinstead and also at Horsham.

Sussex does not keep all its good things to itself. At most of the shows there are prizes offered to all England. The West Grinstead Show, held in the park of Sir Walter Burrell, was of large extent, taking in almost all autumnal produce. Though a perfectly baronial hospitality, it was also made the occasion of a great county gathering. Very excellent Roses were exhibited by Mr. Graveley, Captain Carter, Mr. Martin, and others. The all-England prizes for twelve being taken by Mr. Martin, and another who, as Mr. Camm would say, shall be nameless. The show of Roses in the beautiful grounds of Horsham Park on September 6th would not have disgraced July. Many of the boxes would have taken prizes anywhere. Mr. Martin was again largely successful. Castellane was shown

in great beauty, as also Belle Lyonnaise, one of the very best seedlings of Gloire de Dijon, also Malmaison, Dr. André, and E. Y. Teas, which is rapidly ranking as a first-class Rose. There was here a twenty-four as well as a twelve all-England class, besides various county ones, the prizetakers being Mr. Martin first in both; Sir W. Burrell, and Mr. Davis, second and third for the twenty-four. There was also a large and fine fruit, and vegetable, and other flower exhibition.—A. C.

THE WEATHER.

FROM recent reports in the Journal I see that the Potato disease is becoming general throughout England. So far as I know it is not begun in our district yet, but yesterday morning we were visited with something of a different character, which, to say the least, made a more rapid change in the appearance of Potato fields than the disease would do. What I refer to was a severe frost. After a few hours' sunshine whole fields of Potatoes had a quite black appearance. This must seriously injure the crop, as, owing to the long period of dark rainy weather we have had, the tubers are in many cases not more than half-grown. Some of the more tender occupants of the flower garden, such as Dahlias, *Nasturtiums*, *Perilla*, &c., have suffered considerably from the frost. I do not remember a worse season for autumn flowers. The rainy summer has made them late, and now the frost threatens their destruction when they are but coming to their best, and in some cases not even that.—J. HARDIE, *Logie Mar, Aberdeenshire*.

NOTES ON VILLA AND SUBURBAN GARDENING.

THE harvesting of such fruit as our gardens possess and several of our kitchen garden crops must now for a time receive our immediate attention. Let all fruit be carefully hand-picked and carried to the fruit-room or other place for storing them, and any bruised, cracked, or damaged by the attacks of an insect should be put on one side for immediate use. A great number of our Apples are attacked by the Apple weevil, which bores down through the centre of the fruit and out on one side, which causes them to ripen prematurely, and subsequently to drop off. That delicious-flavoured Pear Williams' Bon Chrétien should be gathered before it turns yellow, otherwise it speedily decays. By going over the trees at different periods and gathering a third of the crop at a time, we have been able to supply the table daily (in former years), for several weeks. These same remarks will apply to early Apples that soon deteriorate in flavour after they are once ripe. Our Pear and Peach crops are very slight indeed, but of Apples we have on several trees a very fair sprinkling. On King of the Pippins, Lord Suffield, Beauty of Kent, Cellini, and Wellington we have an average crop, while Cox's Orange Pippin and several others have just a few. Peaches, Nectarines, and other trees trained on walls will require to be kept tolerably thin and free of breastwood, in order to facilitate the ripening of the shoots before the dark dull days of winter are upon us. Keep down weeds in Strawberry beds by running the hoe through them, and clear-off any runners which may from time to time appear. The newly-planted beds are doing well, but when the stock is limited plants may be put in still.

In the flower garden there will be very little change in the operations of keeping all neat and tidy. There is as yet in the neighbourhood of London no perceptible falling-off in the gayness of the beds. Geraniums are with us still in great beauty, and the carpet bedding wherever we have seen it is just at its best, while the herbaceous borders are gay with *Tritomas*, *Pentstemons*, *Phloxes*, and *Gladioli*. The flower stems of *Gladioli* and other herbaceous plants should be cut off as they begin to decay. Cuttings of various bedding plants may yet be struck, full directions of which have been given in previous calendars. Roses are still blooming well; we do not remember having had such a successional supply before, and unless we have some very bad weather we are likely to have good blooms for some time to come. Look to those that were budded in the early season, and if any failures it is not too late to bud again; others will require the binding material removed, otherwise it may cut into the wood. Cuttings taken-off now will strike freely if inserted in a shady border in the open ground. Prepare the cuttings in lengths from 3 to 4 inches, and insert them in rows, making the soil firm around them.

Spring sown Onions ought now to be fully ripe and to be taken up and exposed to the sun as much as possible, for it is impossible to dry Onions too much. If a dry and airy place under cover can be spared so much the better; if not, frequently turning them on mats will cause them to become hard and plump. The ground where the Onions have been lifted will be suitable for planting-out the supply of spring Cabbage, which is in all cases a most important crop. The ground should be liberally manured and deeply dug before the Cabbages are

planted. Twenty inches apart is a very good distance for a permanent crop, but where ground is scarce and small greens are wanted in the spring, they may be planted 1 foot apart, and the same distance between the rows. If this be done, every other row and every other plant must be removed for use as wanted in the spring. Carrots, more especially the Early Horn and James's Intermediate, will require harvesting—laying them in layers of sand in the store-room. Overhaul all Potatoes recently lifted, and remove all decaying tubers. Continue to transplant Coleworts, Lettuces, and Endive from the July sowings, and make another sowing of the Bath or Brown Cos Lettuce; they may be useful for standing over the winter. All herbs should be collected and dried at once. Winter Spinach and Turnips should be sufficiently thinned before they become drawn. A judicious thinning enables them to withstand the severity of the winter better than when they have been left and become drawn.

Chrysanthemums are now growing fast, their pots have become full of roots, and now is the time to help them with manure water. They are very gross feeders; still we advise it to be given them tolerably weak at first. About an ounce of guano in a gallon of water makes a very suitable stimulant for them, or the ordinary mixture of animal droppings diluted will help them. Their bloom buds are now becoming conspicuous, and in order to insure large blooms they must be disbudded, preserving the centre flower buds of the large-flowering and Japanese sections; but for the Pompons we do not advise disbudding at all. The various modes of training for specimens must be daily attended to, and all must be made secure to stakes, or the winds may snap that which it has taken weeks to grow.

Stage and fancy Pelargoniums that have been previously cut down and are breaking freely, should be shaken-out and re-potted into smaller pots. Place them in a cold frame; they will soon emit roots and grow away freely. Zonals that were potted-on in the spring and placed out of doors for autumn display should now be returned to a frame or some place under cover, using the lights only to throw off rains; they will show flower and be useful for some time to come. Primulas and Cinerarias will require timely potting to prevent them from becoming pot-bound.

The stock of Dutch bulbs may now be purchased. Pot those varieties that naturally bloom early first. After potting place them under a cover of a few inches of cocoa-nut fibre or coal ashes, where they must remain for a few weeks to take root without exciting top growth.

All houses will require a complete overhaul in the way of cleaning and painting to get them ready to replace, as soon as bad weather sets in, the stock of hardwooded plants now out of doors hardening-off.—J. W. MOORMAN.

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

KITCHEN GARDEN.

This department is sometimes neglected at this time of the year. Many of the quarters are half cleared of the various crops, some of them entirely. In either case it is well to see that no trimmings of vegetables or other refuse are left in the way. Let the ground be cleared and levelled at once, and if a whole quarter is empty it is the best plan to dig or trench it at once. We are picking quantities of Scarlet Runners and Dwarf Kidney Beans. Of the latter the Negro Longpod seems to be the best for a general crop, although for the earliest Newington Wonder bears abundantly, but the pods are very small. We have tried different varieties of the tall Runner Beans, but taking everything into consideration there is no doubt that the variety termed Painted Lady has not yet been superseded. Onions have been sown in drills, and also Cauliflower, in our dry soil. That sown about the 21st of August is apt to button, especially if they are planted out in the hand-lights; whereas a neighbour who does not use hand-lights, but puts out his plants in a dry sheltered part of his garden, finds the 21st of August the best date. If the plants are likely to grow too vigorous before the winter he lifts them a second time and transplants, but the plants are not put out in the open quarter until the early spring months. We have also sown a quantity of Hicks' Hardy White Cos Lettuce; it is an excellent variety of the Paris White Cos type, and has not yet failed to stand over the winter months without any protection. We have earthed-up Celery. It is needless to say that this work must be done very carefully and only when the leaves and soil are dry; it is therefore necessary to take the earliest opportunity of fine weather to attend to this work. See that the soil does not fall into the centre of the plants: to avoid this it is always best to tie the leaves tightly together. Cardoons have now made considerable growth, and must also be blanched in the same way as Celery. A good old-fashioned plan is to tie the leaves together with haybands, and then place the earth round the leaves in the manner of a Celery trench. If they are earthed-up now they will be fit for use about November and onwards. Some persons consider that the best way to blanch

Cardoons is to tie the leaves together and then tie some straw round the plants, or place the straw in an upright position on each side of the row, fastening it at the top. This certainly throws the water from the centre of the plants. Cauliflower plants put out in July will now be forming heads. They ought to have been earthed-up and also kept free from weeds. If this is not done see to it at once. See that gravel walks are kept free from weeds by hand-picking. This is the best way to clean walks, and after going over them a birchbroom should be used to level the path and clear off any withered leaves and dirt.

MUSHROOM HOUSE.

At this season in many districts almost any quantity of excellent Mushrooms can be gathered on the old pasture ground, and a succession may be obtained for some time yet. The Fairy-ring Fungus (*Agaricus oreades*) is very abundant with us, but no one seems to use them in any way, which is a misfortune, as they make excellent catsup, and can be cooked in the same way as the *Agaricus campestris*. Preparation must also be made at this time for the formation of a bed in the house, or if material is ready a bed may be made up at once. The usual way is to get stable manure with a portion of the long straw shaken out of it. The manure must be placed in a heap to ferment; but if it is likely to heat with great violence it may be spread out thinly, which will arrest the fermentation to a considerable extent, and the manure will also throw off superfluous moisture after being turned over every day for four or five days. It may be again thrown up into a larger heap or ridge, taking care that it is frequently turned to prevent over-heating. The method of making up the beds has been frequently described. It will be well for the gardener to be very attentive to the various details of the work, and, what is of very great importance, he must see that at no time is the manure over-heated. The first bed may be made up on the ground, to be followed by others raised on shelves one above another as high as the walls of the house. The manure must be beat down rather firmly; an ordinary brick wielded in the hand is good for this purpose. For those who do not possess the advantage of a forcing house for Mushrooms it has been recommended to obtain a supply by growing them in boxes to be placed in a cellar or some similar place. A writer in the Transactions of the Caledonian Horticultural Society more than fifty years ago procured boxes 3 feet long, 1½ foot wide, and 7 inches in depth. He spawned the manure, which was rammed into the boxes in the usual way, and each box produced from twenty-four to forty-eight pints of button Mushrooms. The writer further adds, "I have lately found it very useful to add to every three barrowloads of horse dung one of perfectly dry cow dung, beaten down to powder, as it were, and well mixed amongst the horse dung after it has lain under cover four or five days to dry." This plan of mixing the dry cow manure with that from the stable we know to be a good one, but it ought to be gathered in the summer and be dried in the sun. Gardeners know how difficult it is to get the manure for their Mushroom beds sufficiently dry, and when this is the case they would find how useful two or three cartloads of this sun-dried material would become. Artificial heat in the Mushroom house ought to be avoided as long as the night temperature ranges about 55°; a high night temperature is not conducive to the quality of Mushrooms. Two things must be guarded against in the growth of Mushrooms, and that is over-heating the beds and too much moisture in the manure.

VINERIES.

If a gardener were asked the question whether it was most difficult to grow Grapes to perfection or to preserve them after they are ripe, probably he would be puzzled to say. In our district, which is within the radius of the thick clammy London fogs, it is almost impossible to keep the berries from moulding or from injury in some way; already one or two berries have become mouldy. It is quite necessary to watch frequently for traces of decay on the berries, and to have them removed before they do injury to the others. For want of this precaution a mass of berries are destroyed together and the appearance of the bunch is ruined. As this is the season when most attention is required the cultivator must be on the alert. A judicious use of the heating apparatus and careful ventilation is necessary to success. Many vineries are not provided with the means of ventilation in wet weather at the apex of the roof, and in wet weather many persons put on the heat to dry the atmosphere. This it might do if there was a good circulation of air through the house. We rather prefer to do without heat in such weather, and to ventilate freely and dry the atmosphere in clear weather.

Preparations as to cleaning the walls and woodwork of the houses, also removing the loose bark and washing the Vines, have been carried on with us during the past week. The walls have been well washed with limewash, and the Vines will also be washed with strong soapy water before painting the canes with a mixture of soapy water, a small portion of soot, and sufficient sulphur to thicken the mixture to the consistency of thin paint.

PLANT STOVE AND ORCHID HOUSES.

Allusion has already been made to the necessity of carefully

looking over all bug-infested plants and utterly destroying the pest. The first cleansing must be followed up by another in three or four days, and yet another and another at short intervals. A year or two ago when inspecting a celebrated private collection of stove plants I remarked on the absence of bug, and the gardener stated that he had none on the place. He said that a plant sent in from the nursery, though apparently clean, soon developed a colony of the pest, but he had it looked over every day for the space of two or three weeks, after which it was pronounced to be clean. It is not possible to grow many of our best stove plants satisfactorily, such as *Ixoras*, *Dipladenias*, *Stephanotis*, &c., if they are not free from this pest; the insect gets into the flower trusses and makes a sad mess of them. Red spider is easily destroyed if the leaves can be washed clean with soapy water and the plant be syringed daily afterwards. A most difficult intruder to overcome in the plant stove is the lively little thrips. Besides moving about at a rapid rate they get into the heart of many tender-foliaged Orchids and other plants, where you can neither handwash nor syringe them. Fumigating the house with good tobacco is the best way to destroy them, but it must be done with great caution, as many Orchids, Ferns, and tender plants suffer from too much tobacco smoke. It took us nearly two years to clear the stove of this pest, and it was done by fumigating in the late autumn and winter months. Whole collections of Orchids are depreciated in value to an alarming extent by the depredations of this pest. It is particularly fond of the tender leaves of some varieties of *Cypripedium*, especially *C. superbium* (Veitchii). It will now almost be possible to do without using the shading material. If it is necessary to use it at all it may only be done when the sun shines directly on the plants.—J. DOUGLAS.

TRADE CATALOGUES RECEIVED.

Hooper & Co., Covent Garden Market, London.—*Autumn Catalogue of Bulbs, &c.*
William Rollison & Sons, The Nurseries, Tooting, London.—*Catalogue of Cape, Dutch, and other Bulbs, Fruit Trees, &c.*
Dick Radclyffe & Co., 129, High Holborn.—*Catalogue of Dutch Flower Roots, Trees, Garden Requisites, &c.*
Thomas S. Ware, Hale Farm Nurseries, Tottenham, London.—*Autumn Catalogue of Bulbs, Tuberous-rooted Plants, &c.*
Stephen Brown, Weston-super-Mare, Somerset.—*Autumn Catalogue of Bulbs and Flower Roots.*
Samuel Yates, Old Millgate, Manchester.—*Illustrated Catalogue of Flower Roots.*
W. Tait & Co., Capel Street, Dublin.—*Catalogue of Superior Dutch Bulbs, &c.*
F. Brassac, Florist, Faubourg Bonnefoy, Toulouse.—*Special Catalogue.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

BOOKS (S. D. T.).—Keane's "Indoor Gardening." You can have it free by post if you enclose twenty postage stamps with your address.

TREATMENT OF CARNATIONS AND PICOTEES (*A Lover of Flowers*).—To grow them satisfactorily the plants must be wintered in cold frames, and be planted out in beds in March, or potted into large pots in which to bloom. The most hardy sorts will live over the winter in borders, but even of them many die during the winter months.

AZALEA LEAVES INJURED (*An Old Reader*).—There is no trace of thrips on the Azalea leaves sent, but there is of red spider. This pest is very destructive. You must syringe the plants freely when growing, which will keep it in check.

MENTHA PULEGIUM HARDY (*A Constant Subscriber*).—It is a native of England and the south of Ireland, and is quite hardy.

DIGGING-IN VETCHES (*E. A.*).—Sow as much seed as if the crop was to be mown.

PELARGONIUMS (*J. E. W.*).—You do not state where they are to be grown. Go to any florist and select for yourself. No seedling Pansies have arrived.

MANURE (*N. J. M.*).—The stable manure worked through the pigstye is the most fertilising. We should apply it to each crop at the time of planting, and in a thoroughly decomposed state.

NOTICE TO LEAVE (*Novice*).—If your wages were paid weekly your master need not give you more than a week's notice.

APPLES (*G. S.*).—Any of the large nurserymen who specially cultivate fruit trees can supply all the varieties you name.

LEAVES AS MANURE (*Sambo*).—They are beneficial, and your inserting them when fresh is an economical mode.

MUSHROOMS (*Franklin*).—Your Fungus is one of the numerous varieties of the common Mushroom which approach the Horse Mushroom in character. We have, however, never before observed any variety change colour on breaking to the peculiar dead and somewhat dark brown colour of your specimen.

IMPROVING SOIL (*Rose*).—Your sandy soil can only have its staple improved by adding large quantities of clay, chalk, and bricklayers' rubbish.

CLEMATIS (*C. S.*).—*Clematis florida* flore-pleno.

CITRON LEAVES BLOTCHED (*L. L.*).—The blotches are caused by deficient root-action and too much shade. A little weak manure water and more light will prevent the blotching. Those out of doors now were injured probably before being moved from the house.

GRAPES CRACKING (*M. R. P.*).—The Muscat Hamburgh is especially liable to crack its berries. The Vine supplies sap faster than the skins of the berries can expand. There is probably an excess of moisture about the roots.

SCALE ON VINE LEAVES (*John Sharp*).—We do not know the cause of plants being infested with insects other than that the plants upon which they are found afford the elements of their existence. The insect infesting the leaf sent is the Vine scale (*Coccus vitis*), and the black mould or fungus upon the surface of the leaf is the result of the insect's excretion. It may be destroyed by a solution of soft soap—half a pound to half a gallon of water, adding a wineglassful of spirits of turpentine, thoroughly mixed, and applied to the parts infested with a brush, syringing the parts dressed with the compound before it become dried upon the leaves. In winter, when the leaves are off and the Vines pruned, the Vine stems should be freed of the loose bark and be dressed with the compound in every part, brushing it well into every angle and crevice of the bark.

CLEMATIS AND WISTARIA PROPAGATION (*Rosery*).—Layering is the most certain mode of propagating the Wistaria, but cuttings of the strong roots may be taken in autumn and inserted in sandy soil, or cuttings of the young shoots when getting firm inserted in sandy soil in a sheltered situation under a hand-light. We should layer a long ripened young shoot in autumn, covering the shoot with about an inch of soil, the whole extent of the shoot to be laid in the soil, and almost every bud will form a plant. Clematis may be layered in the same way, or cuttings put in of the young shoots after they become firm under a hand-light in sandy soil. A more general mode of propagation is by grafting upon the thick roots of the hardier kinds, as *C. vitalba*, using scions of the ripened shoots, operating in early spring under glass.

APPORTIONING GLASS STRUCTURE (*H. P.*).—Your 90 feet length of house we should divide into 20 feet for early vinery, 24 feet late vinery, 20 feet for plant house, and 26 feet for fruit house, which we presume will be an orchard house. As to arrangement, we should have the plant house at one end and next the boiler, taking the pipes through it in a flue with an open iron grating, then the early vinery and the late vinery, following with the fruit house at the other end, the pipes being conveyed through the vinerias as well as the plant house in an open iron grating-covered flue, having the required piping taken from the main flow up the houses. We should have the border for the Vines the whole extent of the house inside, and though the Vines would be planted inside have part border outside, the side walls being arched so as to allow of the Vine roots passing from the inside to the outside border. For the early house we should have Mill Hill Hamburgh, Black Hamburgh, White Frontignan, Buckland Sweetwater, and Foster's Seedling; or if you wish more black than white Grapes have two Black Hamburgh and omit a white kind. For the late house two Muscat of Alexandria, Black Alicante, Lady Downe's, Mrs. Pince, and Gros Guillaume.

RENOVATING OLD GRAPE VINES (*H.*).—The only fault you find with your old Vines is weakness of growth and smallness of fruit; the border is therefore sound and well drained, or you would have complained of shanking. Why, then, should you renew it and incur a considerable expense when more simple measures will meet your requirements? Give the entire border a surface dressing 8 inches deep of three parts old and very rich manure with one part chopped turf or road scrapings; avoid close pruning, rather leave on 6 inches of young wood at each spur with a plump eye near the end, and take up a young rod from some point near the bottom of the rafters with a view to the removal of the old one in a year or two's time, the strength of the young growth being your guide. We do not like turning out Vines into the open air in winter. In your case it appears to be unavoidable, yet there is no reason why they should not be protected from cold by mats and litter, provided they are not left uncovered too late in spring.

LEYCESTERIA FORMOSA (*E. C. O.*).—The name of the shrub is *Leycesteria formosa*, a native of Nepal. It is hardy, but sometimes suffers from very severe frost at this season of the year. It is propagated by cuttings of the matured growth inserted in a cold frame or under a hand-glass. It also comes readily from seed in spring and from cuttings of the young growth. Any nurseryman will supply you with it at 1s. a plant or 6s. a dozen. There are pods of ripe seeds upon the flower cluster which you sent us.

CUTTING-BACK FANCY PELARGONIUMS (*Amateur*).—Fancy Pelargoniums should be cut back immediately after the flowers fade and be put out in the open air fully exposed to the sun. When the buds of a new growth begin to swell shake all the old soil from the roots, shorten them, and then repot, still keeping the plants in the open air till the new growth is growing strongly.

GROWING FINE CARNATION FLOWERS (*Idem*).—To have large flowers and uniform in size cut off all the little buds, retaining only a few of the most promising. This plan has to be followed in the production of most other flowers, and also of fruit; hence the frequent disappointment of those who, seeing fine specimens at shows, purchase plants in the expectation that every flower will be equal to those in a prize stand.

DETAILS OF A SPAN-ROOFED VINERY (*W. Pemberton*).—Let the house stand lengthwise north and south, then the morning sun will shine upon the eastern slope and side; at mid-day it will warm the entire roof, and so pass round to the west later in the day. You can grow Grapes and Roses perfectly well in such a building. Make two arches in the side walls, the tops being 6 inches below the surface; then plant inside the house and close to the east wall three Vines, making for them a border 2 feet wide inside the house to plant in, and let the roots pass through the soil in the archways into an outer border. Plant two Roses in the same way close to the west side, and train the growth upwards till it meets the Vines. Put a stage for plants in the centre with a path all round it, and let your brick flue be under the stage, passing along and returning under the path at any suitable point. Order strong Vines now, and have them put aside with your name fastened upon them at the nursery, but do not plant till the end of March, or rather just as the buds begin swelling; then shake all the soil off the roots, uncoil, and spread them carefully out to their full length in the border, covering with 6 inches of soil. If the sap is in motion when you receive the Vines do not shorten them but rub off the top buds, so that the new growth starts from the bottom of the roof-slope. You will thus avoid loss of strength from the bleeding which so often follows late pruning. Give no check to a single shoot of the first year's growth.

COMBINED VINERY AND PLANT HOUSE (*C. T. J. M.*).—For a late vinery the Vines may be planted outside; but this is not the best plan, entire crops of fruit being frequently spoilt in autumn by heavy rain saturating the border

and causing such a strong flow of sap as to make the fruit crack and decay. Provision ought always to be made to throw off the rain from such a border after the fruit is ripe. Do this and you may plant outside with advantage. If you do turn the vines outside during winter protect them from severe frost with litter and mats, but if you only wish to use theinery as a greenhouse in winter why disturb the vines? The temperature of a greenhouse would not excite premature growth. Alicante and Lady Downe's Seedling are the best late-keeping Grapes, but you must keep out plants till the fruit is used, or much of it will be spoilt by the moisture arising from them. It would facilitate watering and improve its appearance if the stage did not go quite to the end farthest from the earlyinery, but had its shelves continued along to the back with a path at both ends. The heating pipes could easily be connected with those in the earlyinery and put along the front as you propose. Let the valve be in the early house to prevent waste of heat. A 4-inch flow-and-return pipe would no doubt keep out frost in a small house, but we cannot tell how much piping will be required without knowing the dimensions of the house and the maximum winter temperature.

FIG CULTURE (*C. T. J. M.*).—Plant against a south or south-west wall in soil that is not more than 15 inches deep, making the bottom hard with concrete or stone rammed down hard to keep the roots from going down. Fasten the leading shoots to the wall, remove all suckers, and nip off the spring shoots at the third or fourth leaf to induce a second growth of three or four lateral shoots, every one of which should have some incipient fruit at the base of the leaves near the tips. Protect the entire trees with mats or litter during winter, for if the shoots are exposed to severe frost not only will the crop be lost but there will be a risk of the shoots being also destroyed. If the growth prove weakly and the fruit small apply surface-dressings of rich manure, and thus draw the roots to the surface and feed them as much as you please. When the fruit is half grown frequent doses of sowage or guano water poured over the roots tend to increase the fruit's size and flavour. Never let the trees suffer from drought, or the fruit will turn yellow and fall prematurely. Brown Turkey is the best sort for your purpose. It is hardy and a sure and abundant cropper. If you require large fruit plant Brunswick, and for a white sort choose White Marseilles.

SLUG FROM GARDEN (*William Gorrie*).—The slugs sent by you are not unfrequent in the villa gardens in York Road, Trinity, Edinburgh; and as fully as bad plant-destroyers as the several common kinds (from all of which they differ in having a prominent ridge or keel along their backs) is *Limax Sowerbii* of Ferrussac (Forbes & Hanley, Brit. Mollusca. iv. pl. 333, fig. 3.—*L. carinatus*, Gray), common near London but rarer northwards.—I. O. W.

NAMES OF FRUITS (*Grig*).—Dumelow's Seedling. (*Knutsford*).—1, Keswick Codlin. The others not known.

NAMES OF PLANTS (*X. A. M.*).—*Lastrea dilatata*. (*J. Shearer*).—1, *Campylopus rotundifolius*; 2, *Achillea Ptarmica*; 3, *Polygonum Persicaria*; 4, *P. aciculare*. (*G. O. S.*).—1, *Acanthus mollis*; 2, *Physalis Alkekengi*; 3, *Gallieria aristata*. (*Mrs. Pettit*).—The Lady's Tresses (*Spiranthes autumnalis*). (*Mac*).—*Cystopteris fragilis*.

POULTRY, BEE, AND PIGEON CHRONICLE.

COMMITTEEMEN EXHIBITING.

A CORRESPONDENT in a contemporary considers himself a sufferer because at some show where he has exhibited a committeeman won the prize which perhaps would otherwise have been his. He urges that the managers of shows should not exhibit: in fact, he wishes himself to enjoy the fruits and pleasure of exhibiting while others may do all the work. The reply of the editor is very good; he says, "It is quite certain that if committeemen were debarred many shows would never be held, as the keen personal interest in the subject is the chief spur to exertion." This certainly all should readily see, and without doubt once such a plan as this correspondent urges was carried into effect immediately exhibitions would on all sides come to a full stop. Those that remained would be merely speculative exhibitions in every way, got up in some favourite place of resort as a popular amusement, or as a means to get people together; for there are indeed but few fanciers who can give time and money to get up a show, and then not even have the privilege of seeing their own birds compete for the prizes. And the speculative exhibitions, they would in their turn probably cease, for a bad year might come, or a wet day, and the receipts not being sufficient the prizes would very possibly not be paid, and the show would collapse. This has already happened frequently, and without doubt the genuine exhibitions, such as withstand a bad year and still bloom forth in another, are those got up by real fanciers—lovers of poultry in every sense of the word, who promote the show for their own pleasure and to see their birds side by side with their neighbours and friends.

We also agree in thinking the line may, however, possibly be drawn with the secretary, as he naturally has often to be thrown with the judges all the while the awards are being made; but this is less difficult to overcome, for the secretary can be a paid one, such as many exhibitions now have, though, of course, the more ardent a poultry fancier a man may be the more suitable and energetic secretary will he make; and as it would be hard to cut out such a man from the chance of ever exhibiting at his own show, and the fact of the secretary exhibiting was really objected to, it might possibly be arranged for some members of the committee to take in turn these arduous duties which some one must perform. The editor of our contemporary, however, rightly admits that at some shows with some judges the fact of the committeemen themselves exhibiting and carrying off the chief prizes is open to much comment. And this once more opens up the case of how very important it is for exhibitors to

insist on the names of the judges being published; and for the show-promoters themselves, how important it is for them in their own interests, if they want many entries and the birds of the best exhibitors, to publish invariably this information, for we have many judges whose names are themselves a guarantee that all that is fair and honest will at least be done by them. Such names we need not mention, they are well known; and the fancy knows that no committeeman or secretary would ever be the least benefited by any sly hints or remarks they may make as to the ownership of any individual pens with those gentlemen.

We remember a long controversy in this Journal a few years ago on this subject (it is in vol. xvii.); and though we are far from wanting to open up the subject again, we cannot refrain from saying that those fanciers would be foolish above measure who tried to insist on the committee of a show not exhibiting, supposing they for their part had properly advertised who their judge was to be, for then exhibitors could use their own discretion as to exhibiting or not.—W.

LANGSHAN FOWLS.

I HAD some chickens hatched on the 9th of April, and on the 21st of August the pullets, then only four months and a half old, commenced laying. I have never known Brahmas or other breeds lay under five months, and then very rarely. We may therefore, I think, consider the introduction of the Langshan a great acquisition to all poultry fanciers and breeders. I had one of the cockerels on my table last week, and pronounce the flesh to be very superior, light in colour, and most delicate and nourishing.—H. J. BUCHAN, Southampton.

BATH POULTRY, &c., SHOW.

THIS Exhibition was again an apparent success, for the tents were thronged with people and the weather was fine, while the quality of the exhibits was extremely good. The entries, too, in many classes were heavy. The poultry Judge was the Rev. G. Hodgson. *Dorkings* had four classes, and we were sorry to see so few White Dorkings. The Coloured and Silver-Grey, however, made ample amends. The cup went to a Coloured cockerel, the first in the catalogue; a good bird, but hardly likely to make a very large one. The third had more promise. In Silver-Grey cockerels the winner was capital and well ahead. The pullets, too, of both colours were also good. In *Cochins* the champion cup fell to the Buff cockerel shown by a new Cochinchina exhibitor. He is a well-standing good-coloured bird. The first Buff pullet wanted more foot-feather, or else was of much merit. All the winning White cockerels were good, the first excelling in shape and feather and the second perhaps in colour, while the three White pullets were all extremely good, as, too, was the cup Partridge; in fact the latter was a marvel of pencilling and a large-boned growing bird into the bargain. Dark *Brahma* cockerels were disappointing. The first has no promise of greater size, though now pretty. The third was very square and large, but had hardly enough feathering. All the pullets were pencilled, but we fancy many of them were inclined to be too pale under the throat. Light cockerels were good, the winner the Newbury cockerel, while the first pullet was very large but cloudy and not very straight in hackles. *Hamburgs* made good classes and show promise of sharp competition for the future, but many birds were not yet well up and want more time. We noticed the Judge went in apparently for very bright colour in the Golden-pencils. The first Black cockerel and ditto pullet were very forward and matured. *Game* had all to meet in the same divisions, but the quality considering this was moderately satisfactory. The *Leghorns* had two classes, and the first Whites were very fair. The Browns did not seem so forward or so well matched, and in both varieties we noticed too much yellow in the earlobes. The *Spanish* were fair. A nice cockerel of Mr. Jones's from some mistake got into the wrong class, or he would have run the winner close. The first pullet was pretty and nice in face. The *French* were not up to a high standard. We observed that the Judge did not object to Crève combs in the Houdan cockerels, which caused a little dissatisfaction among the fanciers of the breed. In Crèves the first pullet was larger than the others but a little rusty in colour, while the first cockerel had a very poor comb. *Silkie*s were a pretty little lot, but the cup pullet had green feet and not a very perfect fifth claw. Mrs. Holmes sent a good pen, and so did Messrs. Fowler, but the latter were younger. In the Variety class Black *Polands* of much merit won the prizes. Dr. Lloyd's were well-grown and large-crested birds. The *Bantams* had two classes in the Variety. A good pen of Silver-laced were first and Black *Rosecombs* of good colour second, while *Black-boots* of much merit were third. The Any age classes were conspicuous for the cup pen of *Dorkings* (Burnell), the first Black *Hamburgs*, and the two winning pens of *Game*. The local classes were very good, and the birds would have stood high in the open classes. The cup went to a beautiful White *Cochin* pullet and the first in cockerels to a good Light *Brahma*,

but we confess we thought Mrs. Drummond's bird of the same variety in pen 470 was badly used. He was a beautifully shaped and prettily combed bird and had a great deal of style.

The *Pigeons* were well judged by Mr. Tegetmeier; and Mr. Baker, who brought a good team, worthily secured most of the first prizes; but in Turbits he had to give way to the Early Wood birds, and in the Variety class to Mr. Parsons.

The *Rabbits* were judged by Mr. Allison, and were generally well filled and contained some splendid specimens. Among those specially worthy of notice in the classes for Lops were Mr. J. Cranch's beautiful first-prize doe and a splendid Black Rabbit exhibited by Messrs. Fell. The first and second-prize Tortoiseshells were very fine specimens with little to choose between them, and we should have much admired Mr. Archer's first-prize doe in the Any other colour class were it not for the very peculiar appearance of her eyes, which if not a blemish was at least no beauty. The Silver-Greys proved an excellent class. Messrs. Fell's third-prize Rabbit was even better in general colour than their first-prize specimen, but the darker nose of the former justly put him out of court as compared with the beautifully shaded head of the latter, which also gained the cup. Himalayans were also good. The first-prize Rabbit, though not very large, was unusually dark in all points and neat in shape; the second and third a trifle larger, but not so dark, especially in the feet. In Angoras the judging was evidently by size, since the third-prize specimen as well as No. 950 (Crook) were conspicuous by the fine silky quality of their wool as compared with the coarser coats of the first and second prize-winners. The Belgian Hare class had twelve entries of very unequal merit, and the winners seemed judiciously selected. Dutch were scarcely as well represented as the other classes, but the winners were nice specimens, the first-prize Rabbit neater in marking and brighter in coat than the second. In Any other variety the competition was small, but the prizes fell to Rabbits which seemed well worthy of the selection made in their favour. The local class hardly produced as many entries as might have been anticipated, but the selling class was well filled and contained many excellent bargains, especially in Lops, which doubtless found a ready sale. Altogether we derived great enjoyment from attending what we may fairly regard as one of the best shows we have seen for some time past in the south of England.

THE Bath Show seems to have become an institution, for it has lived and prospered four years. Then it has its big brother, the horticultural, to lean on, so one helps the other. But there must be some alterations, or the attendance, which was not so good as on former years, will fall off still more. On my entrance to the Sydney Gardens I paid 2s. 6d.; second and further entrance to the Poultry Show is, which with the catalogue make actually an outlay of 4s. before a bird can be seen. I would advise that it might be possible to have a separate entrance for the poultry, so that those who are only bird fanciers should be permitted to enter on paying something less than 4s. Then, next, the poultry Judge was overworked. It is not fair to ask any one man to judge upwards of five hundred birds. Then the numbers did not run properly, and the lower tier containing some of the very best birds was too low, and they could not be seen on a dull day. As a summing-up it may be said, that although the entries were not so large, the birds were of a better class. Some of the chickens were magnificent—witness Mrs. Acton Tindal's champion Partridge Cochin pullet, such penciling, &c. But I must pause or I shall be intruding upon "W's" domains, for I saw "W." there looking intent and critical. Away then to the

Pigeons.—There were about two hundred of these, and, of course, remembering the time of the year, many were badly in moult. Carriers were shown in two classes. Cocks and hens of any colour.—The first cock (Baker), a Black of good frame and carriage, a sure winner. Second (Cucksey), also Black, good beak wattle, but thick neck. Third (Baker), a Dun and nice. Hens.—First (Yardley), a Dun in very heavy moult. Second (Baker), a good young Dun. Third a Dun as well. Well done, Duns. Pouters of any colour (cock and hen classes).—First cock, White, a very showy nice bird of Mr. Pratt's. Second (Baker), a Blue and small. Third (Pratt), Blue, with large crop but too thick in girth. Pouter Hens.—First (Baker), a noble Black, she deservedly had cup as well as first. Second (Mrs. Ladd), a fine big hen, but out of show, and not inclined to be showy, perhaps from want of talking to. Third (Baker), a Blue, overgay but very showy. A nice Yellow of Mr. Pratt's was commended. Barbs were no doubt very good, but being shown in pairs was, of course, a trial to fanciers. Out of the twelve pairs more than half were good. The honours went to the three fanciers—Baker, P. H. Jones, and J. Long, in the order of the names. Tumblers, best pairs, not Almonds.—First, Yellow Agates, rather light but good heads, particularly that of the hen; second Red Agates; third a fine pair of Red Agates. I was sorry to see a pair of odd-eyed Balts commended. If a high-class Tumbler has not pearl eyes he to my mind does not

deserve notice. This was a good class, and many Tumblers of all kinds continue to be bred with success. Almonds, few.—The second prize (Yardley), had a very good hen. First and cup (Baker), both excellent birds. Dragons, in pairs.—Fourteen entries.—First Yellows and very good ones; second Blue; third Blue again. No. 622, a highly-commended pair of good Whites. Antwerps, Short-faced and Long, were, particularly the latter, considered by the Judges as of much merit. Owls.—Only four pairs. First a neat pair of Silvers (Harris); second, Whites. Nuns.—A few more than usual. Of course all were Black, none Red or Yellow. Mrs. Holmes, a Bath fancier took second. Dr. Etheredge had a highly commended pair of interesting birds not often seen, Nun-shaped, but the colouring reversed, the head being white, the body black. Turbits.—A capital yellow-shouldered pair of Mr. Cresswell's were first; second a nice Blue (Gregory); third (T. C. Burnell). One pair only of Blacks which had and deserved a commendation. Fantails.—The winners were all Whites. First (Baker), second (Cresswell), the hen the best bird in the class; third (Loversedge). Jacobins.—In this class an unusual occurrence took place, all the prizes going to Yellows, or at least none to Reds. First (Baker), an excellent pair, one particularly. Second a nice long pair Third Whites, and may be improved. No. 633 had a commendation. Trumpeters.—A few of the older style, but of course not noticed, the winners being of the true Russian type. First, Black; second and third (Woodford), good Mottled. No. 691 were Chequers, a colour in Trumpeters which I do not remember having seen before. Then came a class for new or distinct variety, none very new, and the Swallows were the best. Of the Pigeons hatched in 1877 were many promising birds. A good White Pouter first, a very promising good Black Carrier belonging to Mrs. Holmes second. The Selling class had a lot of bargains in it. Dun Carriers, White Owls, and a pair of Archangels may be mentioned. As I fear Bristol shows are no more, so I trust Bath will keep up, but people must not be charged 4s for a peep at it.—WILTSHIRE RECTOR.

POULTRY.—DORRINGS.—Coloured.—Cockerel.—Cup. Rev. H. F. Hamilton. 2, T. Briden. 3 and 4, T. C. Burnell. Pullet.—1 and 3, T. C. Burnell. 2, R. W. Beachey. Any other variety.—Cockerel.—1, T. C. Burnell. 2, Mrs. Laing. 3, T. Moore. Pullet.—1 and 2, T. C. Burnell. 3, T. Moore. *vhc*, R. A. Boissier. COCHINS.—Cinnamon and Buff.—Cockerel.—Cup. E. Burrell. 2, W. Nickolls. 3, Mrs. A. Tindal. Pullet.—1, J. Gee. 2, W. Nickolls. 3, E. Burrell. *vhc*, Rev. C. J. Watson. White.—Cockerel.—1, Rev. R. S. S. Woodgate. 2, Mrs. A. Tindal. 3, J. Long. *vhc*, J. Turner. Pullet.—1, Rev. R. S. S. Woodgate. 2, J. Long. 3, Mrs. A. Tindal. *vhc*, Mrs. Lang. Rev. R. S. S. Woodgate. Any other variety.—Cockerel.—1, Mrs. Gordon. 2, Mrs. A. Tindal. 3, J. K. & R. R. Fowler. Pullet.—Cup and 2, Mrs. A. Tindal. 3, H. C. White. *vhc*, W. Nickolls. R. P. Percival. BRAHMAS.—Dark.—Cockerel.—1, R. A. Baker. 2, E. Lloyd. 3, H. Lingwood. Pullet.—Cup and *vhc*, W. R. Garner. 2, H. Lingwood. 3, T. Earle. Light.—Cockerel.—Cup, P. Haines. 2, H. A. Barclay. 3, G. B. C. Pullet.—1, T. A. Dean. 2, P. Haines. GAME COCKS.—Cup. J. Colgrove. 2, C. W. Laxton. 3, W. Perren. Pullet.—1, J. Colgrove. 2, W. Perren. 3, G. Bell. HAMBURGS.—Gold and Silver-pencilled.—Cockerel.—1, J. Calcutt. 2, H. Pickles. 3, H. K. Hobson. Pullet.—1, H. K. Hobson. 2, O. E. Cresswell. 3, F. C. Davis. Gold and Silver-spangled.—Cockerel.—Cup. H. Feast. 2, J. Jackson. 3, J. Long. Pullet.—1, J. Carr. 2, J. Stuttard. 3, Mrs. Myers. Black.—Cockerel.—1, C. Sidgwick. 2, J. W. Kellaway. 3, H. Pickles. Pullet.—1, C. Sidgwick. 3, J. Long. 3, E. A. Hogg. MALAYS.—Cockerel.—Cup. A. Richard. 2, A. Smith. 3, E. Hawkins. Pullet.—1, Rev. N. J. Ridley. 2, A. Smith. 3, E. Hawkins. SPANISH.—Black.—Cockerel.—1, H. Flower. 2, J. T. Barker. 3, J. Powell. Pullet.—1, J. Newick. 2, J. Palmer. 3, J. Powell. LECHORNS.—White.—1, A. Kitchen. 2, J. K. & R. R. Fowler. 3, J. H. May. Brown.—1, J. H. May. 2, H. S. Hill. 3, Bradbury Bros. HOUANS.—Cockerel.—1, S. W. Thomas. 2, W. Hamlyn. 3, G. D. Harrison. Pullet.—Cup. H. Feast. 2, E. Lloyd. 3, J. E. Clayton. FRENCH.—Any other variety.—Cockerel.—Cup. J. Colgrove. 2, R. Pond. 3, R. Pond. Cup. Mrs. Williams. 2, H. Stephens. 3, J. K. & R. R. Fowler. *vhc*, R. Pond. SILKIES.—Cup and 2, O. E. Cresswell. 3, J. K. & R. R. Fowler. ORNAMENTAL FOWLS.—1, F. H. Nicholls. 2, A. Bigg. ANY OTHER VARIETY.—Cockerel.—1 and 3, E. Lloyd. 2, P. Unsworth. Pullet.—1, P. Unsworth. 2, E. Burrell. 3, E. Lloyd. BANTAMS.—Game.—1, E. Winwood. 2 and 3, F. C. Davis. Any other variety.—Cup. M. Leno. 2, Ludlow & Rackham. 3, Mrs. J. T. Holmes. *vhc*, C. F. Davis. Pouter. White. Yalesbury Cup, J. K. & R. R. Fowler. 2, E. Burrell. 3, W. Weston. *vhc*, 2, J. W. Kellaway. 3, Mrs. Lang. WATERFOWL.—Any other distinct breed.—1 and 2, M. Leno. 3, H. Yardley. *vhc*, Miss M. E. Davis. GEES.—1, Mrs. Radcliffe. 2, E. Woodford. 3, S. H. Scott. TURKEYS.—1, Rev. N. J. Ridley. DORRINGS.—Cup, T. C. Burnell. 2, Mrs. Radcliffe. 3, T. Moore. COCHINS.—1, F. A. Dean. 2 and 3, W. A. Burnell. BRAHMAS.—1, Mrs. J. T. Holmes. 2, W. R. Garner. 3, F. Feast. GAME.—Cup, E. Winwood. 2, J. H. Jenkins. 3, H. Feast. HAMBURGS.—1, J. Long. 2, H. Feast. 3, H. Stephens. SPANISH (Black), MINORCA, ANDALUSIANS, and LECHORNS.—1, H. Feast. 2, J. Boulton. 3, J. H. Brown. FRENCH FOWLS.—1, H. Stephens. 2, E. Lloyd. 3, E. Burrell. ANY OTHER VARIETY.—1, Rev. R. S. S. Woodgate. 2, R. Morse. 3, Miss How. BANTAMS.—1, M. Leno. 2, Mrs. J. T. Holmes. 3, F. A. Dean. LOCAL CLASSES.—Dorings, Cochins, or Brahmas.—Cock or Cockerel.—1, Mrs. J. T. Holmes. 2 and 3, J. Turner. Hen or Pullet.—Cup. Mrs. Holmes. 2, J. Turner. 3, Rev. C. W. M. Keene. *vhc*, J. K. & R. R. Fowler. Cucksey, Mrs. Drummond. E. Scammell. Any other variety.—Cock or Cockerel.—1, Rogers & Fidler. 2, J. Bolton. 3, J. Hunt. Hen or Pullet.—1, Mrs. Crook. 2, J. Hunt. 3, D. Stant. PIGEONS.—CARRIERS.—Cock.—Cup and 3, J. Baker. 2, S. K. Cucksey. Hen.—1, H. Yardley. 2, J. Baker. 3, J. Harwood. POUTERS.—Cock.—1 and 3, H. Pratt. 2, J. Baker. *vhc*, J. Baker. Mrs. J. T. Holmes. Hen.—Cup and 3, J. Baker. 2, Mrs. Ladd. BARBS.—1, J. Baker. 2, R. H. Jones. 3, J. Long. TURBOTS.—1 and 2, J. Baker. 3 and *vhc*, S. Rogers. ALMONDS.—Cup, J. Baker. 2, H. Yardley. 3, F. Williams. DRAGONS.—Cup, J. Baker. 2, J. Allen. 3, R. Shuttler. ANTWERPS.—Short-faced.—1, C. M. Southwood. 2, W. Slater. 3, J. Kendrick. Any other variety.—1, W. D. Richardson. 2, T. Gomm. 3, J. Chandler. OWLS.—1, R. T. Harris. 3, J. Baker. 3, J. Barnes. NUNS.—1, C. Parsons. 2, Mrs. J. T. Holmes. 3, Mrs. Allen. TURBITS.—1, O. E. Cresswell. 2, G. H. Gregory. 3, T. E. Burrell. FANTAILS.—1, J. Baker. 2, O. E. Cresswell. 3, J. F. Loversedge. JACOBINS.—1 and 3, J. Baker. 2, F. E. Loversedge. TRUMPETERS.—1, J. Woodford. 2 and 3, J. Woodford. ANY OTHER VARIETY.—1, C. Parsons. 2, A. P. Maurice. 3, H. Yardley. *vhc*, G. H. Gregory. Cockerel or Pullet.—1, J. Baker. 2, Mrs. J. T. Holmes. 3, J. Dinner. SELLING CLASS.—1, Miss Horton. 2, R. T. Harris. 3, J. Barnes. LOCAL CLASSES.—1, Mrs. Allen. 2, W. H. Smith. 3, S. Rogers. 4, T. Russell. 5, J. T. Holmes.

CAGE BIRDS.—BELGIAN CANARIES.—Clear or Ticked Yellow.—Cup and 2, Rev. H. F. Hamilton. Clear or Ticked Buff.—1 and 2, Rev. H. F. Hamilton.

vhc. Mrs. Holmes. **NORWICH CANARIES.**—*Clear Yellow.*—1 and 2, C. J. Salt. *Clear Buff.*—1 and 2, C. J. Salt. *Variegated Yellow or Buff.*—1 and 2, J. Hopkins. *vhc.* J. Hopkins. *J. Salt.* (2). *Crested Yellow or Buff.*—1 and 3, C. J. Salt. 2, Miss Northcote. **LIZARD CANARIES.**—*Gold or Silver-spangled.*—1 and 2, J. Hopkins. **CINNAMON CANARIES.**—*Yellow or Buff Cinnamon.*—1 and 2, C. J. Salt. 3, J. Hopkins. *vhc.* W. Barwell, J. Bexson. **CANARIES.**—*Cage of Six.*—1, C. J. Salt. 2, R. Baggs, jun. *vhc.* J. Hopkins. *Selling Class.*—1 and 2, C. J. Salt. *vhc.* C. J. Salt, H. Baggs. **MULES.**—*Variegated Goldfinch.*—1 and 2, C. J. Salt. *vhc.* J. Hopkins (2). **C. J. Salt.** (3). **BRITISH BIRDS.**—*Goldfinch, Linnet, or Bullfinch.*—1 and 2, C. J. Salt. 3, Mrs. J. T. Holmes. *vhc.* J. Bexson. **SKY AND THRUSH or BLACKBIRD.**—1, E. A. Hesley. 2, Mrs. J. T. Holmes. 3, Mrs. E. A. Goddard. **ANY OTHER VARIETY OF CANARY, MULE, or BRITISH BIRDS.**—1, Mackley Bros. 2 and 3, E. Martin. **Extra 2, C. J. Salt. Extra 3, Mrs. J. T. Holmes (2).** *vhc.* E. Martin, J. Bexson. **FOREIGN BIRDS.**—1, Mrs. J. T. Holmes (2). 2, Mrs. May. 3, Mrs. J. T. Holmes. *vhc.* Mrs. J. T. Holmes, Mrs. Drummond, Mrs. Goddard (2). *Cage of Six.*—*Cap.* Mrs. J. T. Holmes. 2 and 3, Mrs. Goddard. *vhc.* W. C. Drummond, Mrs. Goddard, Mrs. J. T. Holmes; F. Clement (2). **PARROT.**—*Grey.*—1 and 2, Mrs. Worger. *vhc.* Mrs. Holmes. **LOVE BIRDS.**—1, Mackley Bros. 2, Mrs. Goddard. *vhc.* Mrs. Holmes, Mrs. Goddard (2). **MACAW or COCKATOO.**—1, Mrs. Goddard. 2, Mrs. Drummond. *vhc.* Mrs. Goddard, Mrs. Drummond. **PARROT or PAROQUET.**—1, F. Richards. 2, Mrs. Goddard. *vhc.* F. Richards, Mrs. Drummond, Mrs. Goddard.

RABBITS.—**LOP-EARED.**—*Self-coloured.*—*Buck or Doe.*—1, J. Cranch. 2, C. E. Thompson. 3, T. & E. J. Fell. *vhc.* C. S. Perry. *Tortoiseshell.*—*Buck or Doe.*—1, P. G. Daniels. 2, C. Daniels. 3, C. King. *vhc.* A. Payne. *Yellow and White.*—*Buck or Doe.*—1, T. Chappell. 2, T. Morse. 3, C. S. Perry. *vhc.* C. King. *Any other colour.*—*Buck or Doe.*—*Cap and vhc.* A. Archer. 2, T. & E. J. Fell. 3, C. Daniels. **SILVER-GREY.**—*Buck or Doe.*—*Cap and vhc.* A. Archer. 2, T. & E. J. Fell. 3, J. Robertshaw. *vhc.* F. Purser. 2, Oldfield. **HIMALAYAN.**—*Buck or Doe.*—1, R. A. Boissier. 2 and 3, L. Oldfield. *vhc.* C. Eyles. **ANGORA.**—*Buck or Doe.*—1, L. Oldfield. 2, S. Buckley. 3, E. A. Boissier. *vhc.* H. Beach, Mrs. Crook. **DOE.**—1, P. G. Daniels. 2, C. Daniels. 3, E. Robinson. *vhc.* W. Lumby. 2, W. Lumby. 3, C. Livett. *vhc.* G. Viner. **DUTCH.**—*Buck or Doe.*—1, J. Robertshaw. 2, H. S. Leach. 3, D. Oldfield. *vhc.* J. Foster. 2, T. & E. J. Fell. **ANY OTHER VARIETY.**—*Buck or Doe.*—1, T. & E. J. Fell. 2, T. Moss. *Buck or Doe.*—1, J. Hann. 2, T. Wedmore. 3, T. Hambridge. *vhc.* H. Hunt. **SELLING CLASS.**—*Buck or Doe.*—1, J. Trueman. 2, D. Oldfield. *Extra 2, H. M. Sturt.* 3, C. King. *vhc.* H. Beach, L. Capenhurst, H. E. Clark.

ALTRINCHAM POULTRY, &c., SHOW.

THE annual Show was held at Altrincham on Saturday last. The prizes for poultry were very good, and the classes numerous, and some were well filled while others were but moderately supported.

Turkeys and aquatic birds headed the list, and kept up the high character of this locality. *Spanish* were very good, especially the hens, but of *Game* there were very few, and mostly of indifferent quality or out of condition. *Dorkings* good as to size. In *Cochins* we could not agree with the awards in many cases. In *Buff* cocks a worn-out old bird very mealy and light in colour was placed first, the second in our opinion being far the best, and especially in colour, which was perfect. In hens a pullet, good in shape but pale in colour, was first, a hen second, and a good coloured pullet third. In the other classes the winners were all Partridge, the cocks particularly good. *Light Brahmas* few and only poor; *Dark Brahmas* cocks were well placed and a good lot, but we were puzzled with the awards in hens, first being a well-laced pullet, small and bad in leg and foot feather, by far the best being pen 967 (Henshall), highly commended only. *Hamburgs* as usual good here, the awards being generally well made. *French* fowls were very good in both classes, though in hens they were small and young. *Polish* but three entries of moderate birds. *Bantams* a good section, the *Reds* and *Piles* in *Game* being very good, but those of Any other variety (*Blacks*) were wretched.

Pigeons were a very good entry, and they were well cared for in a tent, and nicely arranged. First on the list were *Carrier* cocks, and these were very good; *Blacks* first and second, and *Dans* third. Hens also very good. In *Pouters* first was a *Blue*, second a *White*, and third a *Yellow* hen, but none in the class were at all in show form. *Barbs* were very good, and these also had two classes, many being capital in skull and eye, but sadly out of feather. *Almond Tumblers* were poor, except the winners; a hen placed first was a perfect coloured bird and well marked. Both the other *Tumbler* classes were good and well filled. In *Blue or Silver Dragons* Mr. Wood carried all before him. In the Any other colour first was a perfect-headed *Blue Chequer*, but rather coarse in beak-wattle; second and third *Yellows*. *English Owls* were a large class, the winners being *Blues*, and good, but most of the others poor, except pen 1197 (Thresh), which should have had a place. In *Foreign Owls* *Whites* won, and in *Jacobins* the winners were all *Reds* in the first class and *Blacks* and a *White* in the next class. There were two classes for *Turbits*. In the first *Blues* carried off the prizes, and in the next a good *Black* was first and another second, and a *Yellow* third. *Antwerps* were good in both classes and well placed, except the first *Blue* in the *Long-faced* class, which was more like a *Rook* than a *Pigeon*.

There were six classes for *Rabbits*, but many of the pens were empty, and as a rule the awards were very curiously made. In *Lops* first was a nice *Blue-and-white*, which we know to measure well, the next best in the class being a self-coloured *Grey*, which for length and quality is even better than the first. Third a *Pawn-and-white*. *Angoras* a good class but badly judged. First a *Rabbit* deep in moult with fur on the sides, a back not longer than a *Silver-Grey*, with just a fringe of long wool as a skirt; the best was awarded third, and was a good one all round. The second best, unnoticed, was pen 1352 (Ridsdale). *Himalayas* a poor lot, the best being selected, except that the third

had a white spot on the nose. *Dutch* a very bad lot. *Silver-Greys* were moderate and fairly chosen. In the *Variety* class first was a poor coloured common *Grey*, second an exquisite *Silver-Cream* which should have been first, and third a poor *Belgian Hare*, but far better than first. Messrs. Gilbert and Pepper's pens were empty.

POULTRY.—**SPANISH.**—*Black.*—*Cock.*—1, J. Leeming. 2, J. Thresh. 3, J. Powell. *Hen.*—1, J. Powell. 2, J. Leeming. 3, J. Thresh. **GAME.**—*Black Red.*—*Cock.*—1, W. Rudd. 2, E. Winwood. *Hen.*—1, T. P. Lyon. 2, W. Jones. *Brown Red.*—*Cock.*—1, W. Brierley. 2, W. Rudd. 3, E. Winwood. *Hen.*—1, G. W. Brierley. 2, W. Rudd. 3, E. Winwood. *Any other Colour.*—*Cock.*—1, W. Rudd. 2, S. Buckley. 3, E. Winwood. *Hen.*—1, T. P. Lyon. 2, C. W. Brierley. 3, E. Winwood. **DORKING.**—*Cock.*—1, J. Walker. 2, J. Cople. 3, J. Stott. *Hen.*—1 and 3, J. Walker. 2, J. Cople. **COCHINS.**—*Cinnamon or Buff.*—*Cock.*—1, J. Walker. 2, C. Sidgwick. 3, J. H. Jones. *Hen.*—1, J. H. Jones. 2, R. P. Percival. 3, C. Sidgwick. *Any other Colour.*—*Cock.*—1, E. J. Wood. 2, R. P. Percival. 3, C. Sidgwick. *Hen.*—1, E. J. Wood. 2, C. Sidgwick. 3, R. P. Percival. **BRAMA FOOTRA.**—*Light.*—*Cock.*—1, R. P. Percival. 2, J. H. Jones. *Hen.*—1, R. P. Percival. 2, A. Bigg. 3, J. H. Jones. **DARK.**—*Cock.*—1, G. & J. Duckworth. 2, R. P. Percival. 3, G. W. Henshall. *Hen.*—1, R. P. Percival. 2, J. Walker. 3, A. Rothwell. **HAMBURGS.**—*Golden-spangled.*—*Cock.*—1 and 2, G. & J. Duckworth. *Hen.*—1 and 2, G. & J. Duckworth. *Silver-spangled.*—*Cock.*—1, H. Pickles. 2, C. R. Senior. 3, Ashton & Booth. *Hen.*—1, Ashton & Booth. 2, T. B. Macley. 3, C. R. Senior. **GOLDEN-PENITTED.**—*Cock.*—1 and 2, G. & J. Duckworth. 3, H. Pickles. *Hen.*—1, H. Pickles. 2 and 3, G. & J. Duckworth. **SILVER-PENITTED.**—*Cock.*—1 and 2, H. Pickles. 3, J. Nelson. *Hen.*—1 and 2, H. Pickles. 3, J. Nelson. **FRENCH.**—*Cock.*—1 and 2, I. Ward. 3, Robinson & Myers. *Hen.*—1, W. F. Upsher. 2, J. E. Clayton. 3, A. Ouden. **POLISH.**—1 and 2, P. Unsworth. 3, J. Fearnley. **GAME BANTAMS.**—*Black Red.*—*Cock.*—1 and 2, W. F. Entwistle. 3, R. J. Hartley. *Hen.*—1 and 2, W. F. Entwistle. 3, T. H. Stretch. **BROWN RED.**—*Cock.*—1 and 2, W. F. Entwistle. 3, W. B. Egerton. *Hen.*—1, W. B. Egerton. 2, W. F. Entwistle. **ANY OTHER VARIETY.**—*Cock.*—1 and 2, W. F. Entwistle. 3, R. J. Hartley. *Hen.*—1 and 2, W. Baskeville. 3, W. F. Addie. **BANTAMS.**—*Any Variety except Game.*—1, 2, and 3, J. Nelson. *Any distinct Variety not named in the Schedule.*—1, C. Sidgwick. 2, J. Griffiths. 3, G. GRAVES. **SELLING CLASS.—1, R. P. Percival. 2, G. W. Henshall. 3, J. Sumner. **TURKEYS.**—1, J. Walker. 2, B. Davis. **GESE.**—*White.*—1 and 2, J. Walker. *Grey.*—1 and 2, J. Walker. **DUCKS.**—*Aylesbury.*—1 and 2, J. Walker. *Rouen.*—1 and 2, J. Walker.**

PIGEONS.—**CARRIER.**—*Cock.*—1 and 2, T. H. Stretch. 3, J. Walker. *vhc.* J. Royle. *Hen.*—1 and 2, J. Gardner. 3, T. Hewitt. *vhc.* R. H. Stretch. **PORTRESS.**—1, J. Gardner. 2, D. M. Garside. 3, J. Royle. **BLACK or DUN.—1, J. Walker. 2, H. Yardley. 3, J. Royle. *Any other Colour.*—1, 2, and 3, J. Royle. **TUMBLERS.**—*Short-faced Almond.*—1 and 2, H. Yardley. 3, J. Royle. *Bald or Beard.*—1, C. W. Hobbs. 2, H. Yardley. 3, W. H. Tweedale. *vhc.* S. L. Bellhouse. *Any Variety except Short-faced.*—1 and 2, J. Brown. 3, W. H. Tweedale. *vhc.* J. Brown; S. L. Bellhouse. **DRAGONS.**—*Blue or Silver.*—1, 2, and *vhc.* R. Woods. 3, J. Gardner. *Any other Variety.*—1, R. Woods. 2, W. W. Jacobs. 3, J. Gardner. *vhc.* R. Woods. **LONG-CROCK.**—*Owls.*—*English.*—1, H. Mangnall. 2, J. Royle. 3, J. Gardner. *Foreign.*—1 and 3, J. Royle. 2, J. Gardner. **JACOBINS.**—*Red or Yellow.*—1, D. M. Garside. 2, J. Gardner. 3, H. Mangnall. *Any other Colour.*—1 and 2, H. Mangnall. 3, H. Crosby. **TURBIT.**—*Blue or Silver.*—1, J. Gardner. 2, A. Stretch. 3, H. Mangnall. *Any other Colour.*—1, J. Gardner. 2 and *vhc.* H. Mangnall. 3, J. Brown. **FANTAILS.—1, H. Crosby. 2 and 3, H. C. Bowman. **ANTWERPS.**—*Short-faced.*—1 and 2, W. F. Entwistle. 3, H. Crosby. *vhc.* J. Gardner. **LONG-CROCK.**—*Owls.*—*English.*—1, H. Yardley. 2, J. Gardner. 3, R. Woods. **SELLING CLASS.**—*Price not to exceed 60s.*—1 and 2, J. Gardner. 3, H. Mangnall. *Price not to exceed 80s.*—1, R. White. 2, J. Brown. 3, H. Crosby.****

RABBITS.—**LOP-EARED.**—1, T. & E. J. Fell. 2, Howarth & Whittingham. 3, J. W. Baron. *vhc.* E. Hobson. **ANGORA.**—1, H. Badger. 2, W. Baron. 3, S. Buckley. **HIMALAYAN.**—1, T. & E. J. Fell. 2, W. Baron. 3, J. Wright. **DUTCH.**—1, H. Cragg. 2, T. Haslam. 3, J. Wright. **SILVER-GREY.**—1 and 2, T. & E. J. Fell. 3, J. H. Field. **ANY OTHER VARIETY.**—1, E. Hobson. 2, T. & E. J. Fell. 3, J. H. Bull.

JUDGES.—*Poultry:* Mr. R. Teabay, Fulwood, Preston. *Pigeons and Rabbits:* Mr. J. Hawley, Bradford, York.

STAFFORDSHIRE POULTRY SHOW.

THE annual meeting of the Staffordshire Agricultural Society was held at Burton-on-Trent on the 4th and 5th inst. The arrangements were of an elaborate character and well carried out, the local Committee rendering Mr. Tompkinson, the General Secretary, ample assistance. A capital marquee was provided for the poultry, the pens being from Clark of Stoke-on-Trent. The Show was the best of chickens we have seen this season. *Black or Brown Red* cockerels headed the list with good entries, but many of the former were very coarse; in cockerels the awards being made to *Brown Reds*. The first very young, but perfect in shape and colour; second losing by very little except length of body. In pullets two well-moulded *Black Reds* obtained the places of honour, but the first (a gem in other respects) was dark eyed. Several birds highly commended will be better all round when tamed down to the show pen. Any other variety, cockerel and one pullet.—First *Duck-wings*, the best we have seen this season; second *Pile*, also very first-rate. *Spanish* were a superb lot, first going to a pair of birds the pullet in which pen was of marvellous quality of face and drop, reminding us of the celebrated *Queen* of some years ago brought out by the same exhibitor, the only fault in this case being that as yet the comb is perfectly straight, like that of a cock; second an even pair, as also pen 31, very highly commended; but the best cockerel with a miserable pullet was shown by Mrs. Allsop, and is by far the best we have seen this season. *Dorkings* pretty good in both classes. *Cochins* were also good in colour, shape, and forwardness in the *Buffs* and *Partridge*, but the *Blacks* were rather small and thin-legged, but nice in colour. *Brahmas.*—*Dark* cockerels, first a fine bird, a little raw, but must make a grand one; the second also good. *Pullets* a grand class; the first all that can be desired, the second large, but having a little too much hock for our taste. *Light* cocks a moderate lot, but the pullets made up for these. The class large and competition keen. The first and second

wonderfully well developed, and good in colour and marking. Pen 87 and 88 were a close run, the latter the best marked we ever saw. *Hamburgs*.—Gold-pencils, first a good forward pen; the second had the best pullet, but cock not forward. Pen 93 (Pickles) nice but too young. Silver-pencilled.—First a nice well-grown pair; second not that exhibitor's best, but pretty good. Gold-spangles.—The first far a-head and good throughout; the second also a nice pair. Silver-spangles.—First very good in all points; second a fair pen, but some others too freely manipulated, else their position would have been higher. *Houdans* were the classes of the Show, and left us at full liberty to insist upon the correct type of comb without detriment to other points. In cockerels there were ten, all good in most points. The winners perfect in comb and crest. The second a little raw, but will make an enormous bird. Pullets eighteen, and a rare lot; shape, size, and comb of the highest merit, and nearly all noticed, the prizes in both classes going to Uttoxeter. *Crevins* in pairs were good; the pullets superior to the cocks. *Leghorns* had a class, and these were a smart lot; first Whites (neat in all points) and second Brown. *Turkeys*, *Geese*, and *Ducks* mustered well, and the exhibits were unusually fine. Extra class.—First Golden Polands, second Black Hamburgs, a fair pen of Black Red Bantams being awarded an extra third. Strange to say no provision was made for Bantams, but we understand this will be remedied another year.

POULTRY.—GAMES.—*Black-breasted and other Reds*.—Cockerels.—1, Duke of Sutherland. 2, H. Beldon. Pullets.—1, R. Johnson. 2, W. E. Oakeley. *vhc*. H. Beldon. G. F. Ward. *Any other variety*.—Chickens.—1, W. E. Oakeley. 2, and *vhc*, Duke of Sutherland. *SPANISH*.—Chickens.—1 and 2, J. Powell. *vhc*. J. Walker. *DORKINGS*.—Coloured, except Silver-Gray.—Chickens.—1, J. Walker. 2, W. E. Oakeley. *Silver-Gray*.—Chickens.—1, R. Johnson. 2, O. E. Cresswell. *vhc*. Hon. Mrs. Colville. *COCHIN-CHINA*.—Cinnamon or Buff.—Chickens.—1, C. Sidgwick. 2, H. Tomlinson. *vhc*. Mrs. Allsopp. *Brown*, *Partridge feathered*, or other varieties.—Chickens.—1, J. Wood. 2, C. Sidgwick. *Black*.—Chickens.—1, H. J. Storer. 2, G. C. Levett. 3, E. Kendrick, jun. *ABRAMA POOTRA*.—Dark.—Cockerels.—1, H. Lingwood. 2, E. Pritchard. Pullets.—1, F. Bennett. 2, Horace Lingwood. *vhc*. S. W. Thomas. E. C. Peake. *Light*.—Cockerels.—1, J. Mitchell. 2, R. Percival. Pullets.—1, A. Bigg. 2, F. Bennett. *vhc*. W. Thorn. H. Lingwood. G. E. C. Breeze. *HAMBURGERS*.—Golden-pencilled.—Chickens.—1, H. Beldon. 2, Duke of Sutherland. Silver-pencilled.—Chickens.—1, Duke of Sutherland. 2, H. Pickles. *vhc*. H. Beldon. Dr. E. Snell. Golden-spangled.—Chickens.—1, Duke of Sutherland. 2, J. Jackson. Silver-spangled.—Chickens.—1, H. Beldon. 2, and *vhc*, Duke of Sutherland. *HOUDANS*.—Cockerels.—1, R. B. Wood. 2, I. Ward. *vhc*. S. W. Thomas. I. Ward. Pullets.—1, R. B. Wood. 2, I. Ward. *vhc*. R. E. Wood. J. B. Clayton. *GREY-GEOUSES*.—Chickens.—1, W. E. Upsher. 2, R. B. Wood. *vhc*. I. Ward. *LEGHORNS*.—Chickens.—1 and 2, A. Kitchen. 3, J. Heastie. *vhc*. J. K. & R. R. Fowler. W. Kellett. *TURKEYS*.—1, F. E. Richardson. 2, W. Wykes. *GEESSE*.—1, J. Walker. 2, Dr. E. Snell. *vhc*. W. H. Crewe. *DUCKS*.—*White Aylesbury*.—1, J. Walker. 2, Dr. E. Snell. *vhc*. J. Walker. J. K. & R. R. Fowler. *ROUEN*.—1, Dr. E. Snell. 2, J. Walker. *vhc*. E. Kendrick, jun. W. Meanley, Duke of Sutherland, J. Gee. *Any other variety*.—1 and *vhc*, J. Walker. 2, H. Yardley. *ANY OTHER VARIETY*.—Chickens.—1, H. Beldon. 2, Duke of Sutherland. 3, Howlett & Goodwin (Game Bantams). *vhc*. W. H. Crewe (Malays), K. Hawkins (Malays). *SELLING CLASS*.—*Dorkings*, *Cochins*, or *Brahmas*.—1, H. Yardley. 2, Duke of Sutherland. 3, J. Walker. *vhc*. R. Johnson, H. Beldon, J. Gee. *Except Dorkings, Cochins, or Brahmas*.—1, H. Beldon. 2, Duke of Sutherland. 3, E. Kendrick, jun.

JUDGE.—Mr. E. Hutton, Pudsey, Leeds.

CARLISLE BEE AND HONEY SHOW.

This was held in connection with the horticultural show on the 6th, 7th, and 8th inst., when the following prizes were awarded:—

Largest and best Harvest of Super Honey, the produce of one Hive.—Equally divided between M. Mitchell and G. Eastwood. *Heaviest and best Single Super, the produce of one Hive*.—1, W. H. Willis. 2, G. Eastwood. *Best Super in Wood, or Wood and Glass*.—1, J. Barratt. 2, M. Mitchell. *Best Super in Glass*.—Prize, M. Mitchell. *Best Sample of Run or Extracted Honey*.—1, T. Tennant. 2, W. Kennedy. 3, T. Street. *Best Sample of Wax*.—Prize, R. Steel. *Best Bar-frame Hive with Super*.—1, J. Drinkall. 2, R. Steele. *Cheapest Bar-frame Hive suitable for Cottager, with floor*.—1, J. Drinkall. 2, R. Steele. *Best Hive on the Storing Principle*.—1, R. Steele. 2, J. Drinkall. *Best Straw Skep and Super*.—1, J. Drinkall. 2, W. Patinson. *Best and Neatest Observatory or Unicomb Hive stocked with Bees*.—1, R. Steele. 2, J. Drinkall. *The most beautiful Ligurian Bees, to be exhibited with their Queen in Glass Hive*.—Prize, J. Drinkall. *Best Bee-feeder*.—2, J. Drinkall. *Best method of quieting Bees during manipulation*.—2, J. Drinkall. *Best Honey-extractor*.—1, R. Steele. 2, J. Drinkall. *Best Super for general use in an apiary*.—1, J. Drinkall. 2, R. Steele. *Best Bee Dress*.—2, J. Drinkall. *Best Drone Traps*.—2, J. Drinkall. *Best Bee Traps*.—Prize, J. Drinkall.

BEE FOOD.

A TRIAL of many years has convinced me that no more excellent food for bees can be made than good wholesome sugar thoroughly dissolved in water without boiling. I find that half a pint of hot water will dissolve 1 lb. of sugar in a few minutes after careful stirring. I generally prepare a canful at a time, which holds 5 lbs. of sugar and 2½ lbs. of water. It is made and ready for use in a few minutes, and is none the less wholesome if given to the bees while still warm.

I used always to boil the sugar, but found that there was no certainty as to the consistency of the syrup. Sometimes it was too thick, overboiled in fact, and at other times it was too thin. Now it is always uniformly the same. I may add that I get a very excellent moist sugar for 3d. per lb., perfectly clean and wholesome.

I have nearly done feeding my bees for the present, but I shall give them a pound or two more all round towards the end

of October, so that food may be in the open cells when winter comes.—B. & W.

OUR LETTER BOX.

THE CAYUGA DUCK (*A. H. Z.*).—The Cayuga is not sufficiently known and kept to be one of those birds, like Rouens or Aylesburys, whose points and descriptions are thoroughly known and admitted. They have no advantage over these other breeds to cause them to be successful rivals. Their colour should be as dark as possible, if quite black so much the better. There is, however, almost always a brown tinge on it, and this often shows on the wing. We have seen them without it, but it is immaterial. There should be a white mark on the neck almost a collar. The great point is weight, as they have no pretensions to be birds of plumage. The heaviest, therefore, will always be the best.

MOULTING COMMON CANARIES (*Canary*).—The processes of moulting Canaries varies much; but as you ask the question how "common Canaries" should be moulted, we would advise you to bring into requisition a spacious fly-cage (one adapted for some half-score or score of Canaries); or if you have a spare room fix therein some long perches, not to cross each other, and throw in the stock of birds, which will do well on ordinary Canary diet, and the floor strewn with grit sand, and supplied with a suitable spacious shallow vessel for the birds to bathe in. A seed-hopper to hold the food, one with three or four round holes for the birds to feed from, is preferable to an open seed-trough wherein the birds get and soil much of the seed. Before supplying the seed sieve it and mix therewith a pinch of the flowers of sulphur. Let the seed consist of canary, small hemp, millet, linseed, and groats, and now and then a little scalded rape seed. To prevent the birds pecking each other during moult, draw a thickish cloth before the window, so that the room may be in a state of semi-darkness. Occasionally a little may be added, crushed plain biscuit, and a piece of suet may be given. With this treatment your birds should thrive.

EMPTY COMB IN SUPERS (*Robeston Wathen*).—Supers filled and partially filled with empty combs are valuable and should be carefully kept till next year. Wrap them up in paper or cover their mouths like preserve jars to keep moths from the combs, and place them in a dry room or cupboard for the winter. Your bees will take to them readily next summer and give a good account of them.

GUINEA PIGS AND RATS (*Subscriber*).—Some years ago we had a number of Rabbits in a shed, and kept Guinea Pigs with them, not to deter rats, as for the time we had none. They came as they always do where there is food, and when on short commons they killed and ate the Guinea Pigs.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.				
	Baromet. ter at 3 p.m. and Sea Level.	Hygromet- er.		Direction of Wind.	Temp. of Solar 1 foot.	Shade Tem- perature.		Radiation Temperature.		Rain.
		Dry.	Wet.			Max.	Min.	In sun.	On grass.	
1877										
Sept.										
We. 5	30.345	59.3	45.0	—	56.0	66.0	deg. 40.2	deg. 112.5	deg. 35.6	—
Th. 6	3.088	55.3	5.7	W.	55.9	65.6	41.0	119.5	36.1	—
Fri. 7	29.825	57.2	52.8	N.	56.4	67.6	46.8	110.3	43.6	—
Sat. 8	29.970	56.7	51.2	N.	56.0	65.8	44.0	114.3	39.3	—
Sun. 9	29.985	53.8	51.2	N.E.	56.2	67.0	49.8	110.1	45.4	—
Mo. 10	31.21	54.4	56.2	N.	57.0	64.8	49.6	78.0	46.2	—
Tu. 11	29.996	62.7	59.4	S.W.	67.2	73.3	53.4	100.0	48.0	0.110
Means	80.025	57.6	52.6		56.4	67.3	46.3	106.4	42.0	0.110

REMARKS.

- 5th.—Very bright morning and forenoon, less bright in afternoon, hazy between 6 and 7 P.M.; starlit night.
- 6th.—Brilliant morning and bright pleasant day, rather stormlike between 5 and 6 P.M., but fine though rather hazy afterwards.
- 7th.—Splendid morning and fine day; rather cloudy and rainy-looking from 4 to 6 P.M., but fine after.
- 8th.—Very bright fine day throughout.
- 9th.—Fair but not bright in the morning; beautiful day, and a very bright night.
- 10th.—Slight rain in early morning; damp, dull, and sunless nearly all day, but rather less so between 5 and 7 P.M.
- 11th.—Fine forenoon, very dark from 3 to 4 P.M.; very heavy rain for a short time after 3.30, lighter rain fell for about an hour; fine afterwards. A fine week, slightly cooler than the previous one, no rain until the last day.—G. J. SYMONS.

COVENT GARDEN MARKET.—SEPTEMBER 12.

THE almost universal failure in fruit crops has caused our market to look very bare lately, Nuts and Apples alone reaching us in any quantity; of the former there bids fair to be the largest crop known for many years. For Pears and Plums we are entirely dependant upon foreign goods, prices being exceptionally high. Pines are in fair demand, and will now realise good figures for some little time. Business quiet.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	½ sieve	2	6	10 3 6	Melons.....	each	1	6	10 4 0
Apricots.....	dozen	0	0	0 0 0	Nectarines ...	dozen	4	0	16 0 0
Cherries.....	bu-hel	0	0	0 0 0	Oranges.....	3-100	10	0	16 0 0
Currants.....	½ sieve	0	0	0 0 0	Peaches.....	dozen	8	0	24 0 0
Black.....	½ sieve	0	0	0 0 0	Pears, Kitchen..	dozen	0	0	0 0 0
Figs.....	dozen	0	0	0 0 0	dessert.....	dozen	2	0	4 0 0
Filberts.....	lb.	1	0	8 0 0	Pine Apples ...	lb.	5	0	8 0 0
Cobs.....	lb.	4	0	6 0 0	Plums.....	½ sieve	10	0	12 0 0
Grapes.....	½ bushel	0	0	0 0 0	Raspberries....	lb.	0	0	0 0 0
Groceries house	lb	1	6	8 0 0	Walnuts.....	bu-hel	5	8	0 0 0
Lemons.....	3-100	6	0	17 0 0	ditto.....	3-100	0	0	0 0 0

WEEKLY CALENDAR.

Day of Month.	Day of Week.	SEPTEMBER 20—26, 1877.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
20	Th	Faber died.	68.0	44.0	56.0	5 45	6 2	5 20	3 8	13	6 43	263
21	F	Crystal Palace Fruit and Cut Flower Show.	66.4	45.6	56.0	5 46	6 0	5 31	4 19	14	7 5	264
22	S		66.4	44.7	55.5	5 43	5 57	5 41	5 29	15	7 26	265
23	SUN	17 SUNDAY AFTER TRINITY.	66.3	45.7	55.9	5 50	5 56	5 52	6 37	16	7 46	266
24	M	Length of Day 12h. 1m.	66.1	48.5	54.8	5 51	5 50	6 4	7 52	17	8 7	267
25	Tu		65.8	43.1	54.4	5 53	5 48	6 19	9 7	18	8 48	268
26	W		65.7	43.8	54.7	5 55	5 46	6 40	10 25	19	9 8	269

From observations taken near London during forty-three years, the average day temperature of the week is 66.4°; and its night temperature 44.8°

ERRORS IN POTATO MANAGEMENT.



THE Potato disease has baffled the science of the age, and it will continue as long as Potatoes are grown if the present mode of treating those to be used for seed is carried on. I believe the blight to have been more or less in existence long before 1845. I recollect quite well seeing a black or diseased Potato now and again when they were cooked, and I said so at the time the blight was so virulent in 1846; and I remember when the Potato pits were opened seeing a good many rotten ones, and no one will persuade me that such was not the disease that prevails at the present time. It was then so trifling that no attention was paid to it.

I am decidedly of opinion that the primary cause of the disease arises from the way the tubers are kept during winter and early spring. The tubers for seed are stored with those that are to be used for cooking, and at storing time they are put into pits, as they call them in Scotland, and pies in England; these pits are from 3 to 4 feet broad, and there will be 5 to 8 cwt. in a running yard. There is a thick coating of straw put over them to exclude the frost, and then 6 inches or so of soil is put over the straw, with a little air at top for weeks, or till sharp frost sets in, when they are, as a rule, covered up so as no air will get in to damage the tubers. Some farmers put a thick covering of straw on the top and no soil above it. If the weather happens to be fresh and mild the tubers will begin to sprout in January or February, and particularly so if a portion of the tubers are diseased. The moisture arising from the decaying tubers sets them a-growing, then the pits have to be opened and the sprouts and diseased tubers are removed; and anyone the least acquainted with vegetable physiology must believe that the sprouting of the tubers for seed tends to weaken the constitution of the Potato, and ere the planting season comes round, if the weather happens to be of a mild sort, the sprouting goes on and increases the evil. I have seen the Potatoes growing up through the soil and quite green in early spring. I saw it this year, and it is a very common occurrence; and during the months of March and April the small-sized tubers are sent to the English farmers. Under these circumstances, which are grave facts, need any person with a head on his shoulders wonder at the Potato succumbing when an ungenial season occurs? But for the spurious mode of treatment named the Potato would be far more able to resist a season not quite adapted for it, as it is a fen plant more than an aquatic. This I fully believe is one of the causes, and the chief one, of the disease.

Since I remember anything about Potatoes, and up till 1845 and 1846, the Potatoes grown in the Lothians were London Dons, *alias* Caligos, a very fine variety; Blue Don, Glasgow Buff, Perth Red and Blacks, and they were all first-class sorts, far finer in flavour than the Regents. The Flukes and Lapstones are almost equal to any of them; the flavour of a Fluke is equal to the

Don. Up till the blighty season these sorts bloomed and bore seed in great profusion, and the haulm was laid prostrate from the weight of the apples, and people used to gather them to feed pigs.

During a period of fifty-five years, which I remember, I never heard of any person sowing seed to raise new sorts, which no doubt a kind Providence intended for the very purpose, and there was no need for better sorts; but roots, like human beings, may get weak and die out, hence the necessity of rearing new sorts. This, I believe, is the second cause of disease; for I believe in a combination of causes far more than many people imagine, simply because they do not use their brains and look to cause and effect. The third cause arises from the fact that the Potato fields are too highly manured with home manure, and which is quite sufficient; but to increase growth and try to get heavy crops a quantity of guano or other artificial manures is sown on the land, and before the end of July, or not long after it, the Potatoes are met in the drills, and before lifting-time they are warped together like a field of Peas; and if the weather is at all moist the ground gets saturated, and neither sun nor wind can get near them, and depend upon it this causes disease in other plants as well as the Potato. This state of matters ought not to be. The Potatoes should be planted wide enough to allow the sun and air to get between the rows, and such would tend to dry up the superabundant moisture. But the forcing the Potato so much with artificial manures is a great mistake, and I presume such was not long in use before the first blight. I was in Lincolnshire and Yorkshire a few years ago, and the blight was very bad, and between Doncaster and Crowle there were large level fields of Potatoes and warped together so that neither sun nor air could get in to warm and dry the soil.

The fourth cause is the preparing the seed for planting. In England small-sized roots are used for planting, and it is a very rational idea. In Scotland such never used to be done till very recently. They are planting seconds to some extent; and if cutting the large tubers is carefully done and planted at once they will do as well as need be. But possibly some tons of seed are cut and rain sets in, the seed is muddled together into a shed or barn, and at times they get heated and may remain in this state for days. It is no rare matter to see a field of Potatoes with a Potato within 6 feet of each other; this I have often seen in this great Potato country. Where small roots are used there are no blanks worth talking about, and the Potatoes when cut for planting are in a growing state, as the sap is in full force and runs out of the sets, and without a doubt this also tends to weaken the constitution of the Potato. They may grow I admit, but puny curly stems are the result and a poor crop. These, in my opinion, are the causes of blight, and not the wet seasons entirely, as I have seen as wet, sultry, thundery weather before 1845 as I have seen since. And now that there is a sort of consumption in the constitution of the Potato I do not wonder at all that a wet season proves fatal to them. There is a close analogy between animal and

vegetable life; and let a man abuse what may be a sound constitution by intemperance in eating or drinking for a short time, and then bleed, blister, and dose him with medicine, yet should an epidemic prevail he is sure to succumb, while those who have acted in unison with the laws of Nature are more likely to live. This is a well-known fact, and I do not wonder at it. Having pointed out what I think the cause of disease, and which is a serious matter for the million when blight is general and one-half of the tubers are only fit for cattle or swine. A farmer will not grumble from the fact that he gets double or treble the value for what is good, and has less driving with his carts to railway stations, and he has feed for his cattle beside. This is no theory, it is a fact; it is the consumers that pay for the loss of the crop.

The next point for consideration is, How is the matter to be obviated? Are we still to go on in the old use and wont manner, or turn our attention so as to avoid such a dire calamity as the loss of this valuable esculent? I would suggest that the Potatoes for seed should be kept in a cool exposed place, and never be allowed to sprout till after they are planted; and by raising new varieties from the hardiest sorts and treating them in a far more scientific manner there is every reason to believe that in a few years the Potato will be restored to its pristine vigour. Possibly it might be wise in the powers that be to look into the matter as they do with cattle disease and the Colorado beetle, and it is my candid opinion that the one is as necessary as the others.—J. ANDISON, *Ormiston, Edinburgh.*

AUTUMN PRUNING OF FRUIT TREES.

AGAIN I would remind all fruit growers of the importance of getting forward with such pruning as may be safely done at this time of the year, so as to diminish as much as possible the work left for the short dull days of early winter. Gardeners are gradually coming to acknowledge the evils of spring pruning, at least there is less of it done every year; but as a body we are very conservative in our notions, and cling to old practices long after they have been proved to be in error. I should think there is not now one intelligent gardener in Britain who would defend spring pruning; if there is I should like him to give his reasons for so doing. I have given my reasons more than once for insisting that all pruning should be done before Christmas, but being convinced that it should be done and getting it done are different things; and I believe that spring pruning, where it is now practised by men who deserve the name of gardeners, is simply from necessity—from pressure of work at certain seasons. Now, there is no garden of any pretensions where it is possible to get all pruning done between the fall of the leaf and Christmas unless summer and autumn pruning are thoroughly carried out, but where there is not a separate staff kept for each department there is a danger in these days of excessive floricultural millinery that the summer attention to fruit trees will be very limited, and consequently there is the greater necessity for getting at the work in early autumn.

Although the gardener's year has no beginning and no ending, unless it is beginning and ending every day, September is the month in which there is a sort of turning point; all arrears are then brought up unless one is hopelessly in a muddle, plans are roughly carved out for the following season; we have, or ought to have, a breathing space for a week or two to take stock, note down our shortcomings, and if possible travel a little to take a few wrinkles from our brother gardeners. In any case we must begin again in earnest some time during September, and work with all possible diligence before the autumn gives place to winter.

The most important thing perhaps at this season for the gardener to attend to personally, unless he is so fortunate as to have assistants with the requisite skill, is the getting the growths of his wall trees ripened. Often he is obliged to wait till the fruit is gathered before he can thin out sufficiently; but unfortunately there is little necessity for that this year, and consequently there is every chance to have a thorough overhauling and re-arrangement of branches. There is no time like the present to cut out old branches of whatever size which are becoming bare, or long unsightly spurs bearing shoots too (which alas! only bore flowers) that are not wanted another season for furnishing, and stopping the points of unripe growths. Bear in mind that light, air, and the warmth from the wall are necessary to ripen the growth made this year previous to August; that made subsequently will not ripen under any conditions, and if therefore after doing all the

necessary thinning there is still more foliage than can be exposed to the light, the latest and greenest growths may be shortened, and this will reduce to a minimum the work to be done after the fall of the leaf.—WM. TAYLOR.

ROSE DIFFICULTIES.

YEAR by year the number of amateur gardeners increases, notably the growers of Roses. It would be an interesting document which should exhibit the various pursuits out of office of the clerks of this great City. I think gardening would be found to occupy one of the largest, if not the largest section. And why? Because there is nothing which gives so great an amount of pleasure, exercise, and subject of thought. Many of us, I am afraid, cannot say with Bacon that gardening is the purest of human pleasures, because we have only a limited portion of time in which to pursue it, and we all feel a certain amount of disappointment at something which we try at but do not accomplish. But it is not to write about the delights that I wish, but to pour into your willing ears some of the many troubles of my garden. Before I begin let me thank our friends "WILD SAVAGE," Mr. Hinton, and others for the many excellent hints which we get from your columns, for I am glad to say the *Journal of Horticulture* is always held up as a great institution with us.

I am a City clerk—not much leisure except early morning and a stray hour on the Saturday, but I do what I can. Last September I purchased a cottage and garden of about a quarter of an acre; and a third of this I have planted with fruit trees, another third is occupied with miscellaneous subjects, and the other third is given up to Roses, for you must know this is the flower I love. My garden had been shamefully neglected for several years, and presented when first I went into it a forest of weeds, but these were well cleared out, and have, thanks to the Dutch hoe, been kept under. I chose the very best quarter I could for the Roses. The ground is situate twelve or fourteen miles from London and stands high. It is well protected on the east and north by trees which break the wind, and a good wood fence protects it from the west. The soil is a strange mixture. The surface looks a moderate garden soil; taken in the hand it binds together, and therefore cannot be called sandy: in places the subsoil is clay, in other places sand, but the whole garden is well drained, yet cannot be called dry or thirsty. I planted fifty standards in a bed, or rather a portion, for mine is not a place of fancy beds; and these had but little manure when planted and afterwards had a fair mulch of stable dung, which was forked-in carefully in the spring. Afraid that my soil was rather light I also planted about sixty on Manettis, not choosing variety so much in the selection of sorts, but such as I thought would give an abundance of flowers—Monsieur Woolfield, Général Jacqueminot, Sénateur Vaisse, John Hopper, Paul Neyron, Madame Charles Wood, Etienne Levet, Alfred Colomb, Paulin Talabot. These Manettis had all a liberal supply of cow dung, or rather cow droppings (no straw), which was fresh. Pruning was effected rather closely on the standards and very moderately on the Manettis. June came, I lost my Gloire buds first crop with frost, and the first Rose out was Paulin Talabot. I quite astonished my fellow clerks who grow Roses with the blooms I was enabled to bring of this Rose, which deserves to be grown a great deal more than it is.

At the end of June, after keeping clear of grubs and green fly, a pest which has baffled all I can do broke out—mildew. Paulin Talabot commenced. I got soft soap, mixed it with soft water, applied it to the leaves with a large paint brush, washed it off; the result was blistered or discoloured leaves, and for a day or two a victory—but ah! Etienne Levet, Alfred Colomb, The Duke, and Edward Morren are all affected. I am recommended sulphur, and forthwith get a flour-dredger and sulphur; it has but little effect. Then I tried sulphur and soft soap together; no use. Then I hear that soot is the remedy, and forthwith instead of yellow showers out of my dredger, black is the favourite. I syringe, I groan—all no use, though I spend hours of toil. By the end of July the whole of my Manettis, with the exception of a row of unbudded stocks which seem to triumph over their brother slaves who are budded, all are more or less covered with mildew. Leaves are white, bloom buds are thoroughly encrusted on the stems, the thorns on vigorous shoots seem to be storehouses of the white substance, and the enemy has become so strong that it is almost impossible to do anything, and yet these diseased plants have shot up vigorously shoots 7 feet high are on

many sorts. Nor can I complain of quantity of flowers; I cut a very lovely batch to-day for the sitting-room glass, and I could almost hope for a cessation were it not for the little clots of white which appear at intervals (close to the thorn) on even the strongest shoots. Well, unfortunately, I have been no better with the Briars; they have all suffered from this mildew, and though they are now covered with blooms, small ones it is true, they are literally wrecked with this disease. Is it the soil? When I read that when Briars will not do because of the absence of a stiff soil it is preferable to plant Manettis, I can understand it, but I cannot understand why all, Briars and Manettis, should be so terribly punished. There must be a reason. I have watered with chamber slops, urine, &c.; my cow dung on the Manettis was new, the contents of a ditch containing nothing but slop water were resorted to, and there has been a good deal of decaying substance applied. Will any of these account for the disease? It has even attacked Gloire de Dijon, Salet (Moss), and the Monthly China, yea, and I find it on some shoots of Briars which have not been cut off. What is best to do? I have laboured every spare minute, and am fairly wearied and cast down. Will "WYLD SAVAGE" or the "PARSON'S GARDENER" spare me a few minutes, and would they like to see some of the shoots? Would you feed or starve? Would you give them dung or chemical manure? Would you cut them, or what? I am not enough of a naturalist to know, but is the disease on the backs of the Laurel leaves, which I find to be very prevalent in Surrey, the same as Rose mildew? It looks very like it, though I observe that the leaves of the Laurel seem eaten entirely up, while the leaf of the Rose curls and withers. I have seen Laurels in many parts all suffering from this mildew. I am sorry I have taken up so much time, but you have so kindly answered before that I venture again.

Another query—I have a tarred close fence, faces towards the east, gets all the morning sun. What had I better plant against it? The border is about 18 inches wide. Would Apple trees trained on wires do? or would some laths be better than wire? If Apples, what sorts would be best? I find that Hawthornden and Court-Pendu-Plat make capital espaliers. Will Cox's Orange Pippin do the same? I have also a north or north-west fence, gets a deal of sun: would any fruit tree besides Morello Cherries do well here? The fences are close, so that the wind does not get through, and are about 6 feet high. Can you also tell me the name of a very pretty hardy climber which is now filled with red berries? I see it on some of the cottages, and would it do with a north aspect? Would a Buddlea globosa do on an eastern wall? Another query—I have three plants of Thomas Mills Rose, they are very vigorous, but they will not bloom. Is this Thomas Mills' character? if so he must find another home. Not a single bloom on the three trees, though they are large and occupy space.—CITY CLERK.

DEVELOPMENTS IN FERNS.

FERN literature is almost daily increasing; this shows evidence that Ferns are in great favour with the gardening world; besides their being in favour, it shows that their cultivators desire to know more about them than the books in the past or their experience tells them. Ferns altogether are very interesting plants, and their developments, which are so unlike those in other vegetable families, are a source of pleasure and study to many people.

The changes of form in Fern-life to all pteridologists are mysterious, because the cause of the developments are unknown. A few students have apparently tried to fathom the mystery, and because they cannot find the source or the motive-power of the changes some of them have, perhaps too hastily, concluded that the variations that we see in one or other species of Ferns are abnormal and unnatural growths. This conclusion, however, is not altogether satisfactory, although it is for some people an easy way of disposing of a difficulty which may come to be more thoroughly understood as knowledge increases. To my mind there must be laws which govern the growth of these interesting plants as in other natural phenomena, and daily I am more and more convinced that such is the case, because as time rolls on most species of Ferns (my experience is in British Ferns) produce the same characteristic forms of growth in their different families which are commonly called freaks of nature. If we examine *Asplenium Trichomanes imbricatum*, *Lastrea Filix-mas crispata*, *Athyrium Filix-femina* *Simpsonii*, *Blechnum Spicant imbricatum*, *Scelopendrium crispum*, &c., we find their fronds contracted and imbricated,

and though the varieties named belong to separate families they all assume this peculiar form of growth. Again, crested habits of great similarity are met with in *Lastreas*, *Athyriums*, *Blechnums*, *Aspleniums*, *Adiantums*, *Osmundas*, *Cystopteris*, *Scelopendriums*, *Polypodiums*, *Polystichums*, &c. These same families, or most of them, produce their incised, cornuted, crisped, depauperated, marginated, and other styles of growth. After thinking over these peculiarities, which are found in common in most Fern families, it seems to my mind that if they were freaks of nature there would be great irregularity and nothing in common among the developments in the different species. But such is not the case. To even common observers there is a great similarity of aim, if I may use the expression, in the attempts of Ferns of all sorts to change the outline of their fronds into definite types of form, recognised not in one or two Fern families, but through all the genus. With this evidence before us, it seems that a power is working through Fern-life according to rules which produce by its action in all the Fern species a changing of the general outline of their fronds to other definite shapes. It must be acknowledged that the unknown natural force, which is changing rapidly in these days the appearance of Fern fronds, works more quickly in some families than in others; but I believe its effects may be traced in all, or nearly all, of the British and many of the exotic species. The unknown force appears to work strangely, although it seems to move one step at a time. Sometimes it at one move develops a crested variety, as was the case when *Lastrea Filix-mas* took the *cristata* form. Again, this latter variety brought into existence a narrowed form known by the name of *Lastrea Filix-mas cristata angustata*. In the following case the contraction came first, when *Lastrea Filix-mas* took the *crispa* or imbricated habit; after which *Lastrea Filix-mas crispata* generated the crested type, which is very dwarf, and known under the name of *L. F.-m. crispata cristata*. Another almost parallel case is that of *Athyrium Filix-femina curtum cristatum*. In the first place *Athyrium Filix-femina* assumed the *curtum* habit, and the spores from that type generated a crested form. The march of the unknown force might be traced many steps amongst the *Athyrium* and *Scelopendrium* varieties, but time and space will not allow us to follow in its path. From these three cases mentioned and others of like nature it may be inferred that the unknown natural force is an active and progressive power, its goal, like its starting point, being unknown: therefore we may presume to expect that though the Fern varieties we have may generate their like, yet they may yield spores which progressively will give to us forms of Fern-life of which we can have no conception.

I should like to add a little more upon this matter, also upon the germination and hybridity of Ferns, but I must not now.—G. SMITH, *Kendal*.

CRYSTAL PALACE.

YEAR by year the ornamentation of the grounds at this great public rendezvous appears to improve. Certainly they have never been more effective than they are during the present season, as all must admit who inspect them. They are attractive when viewed from various standpoints, but from no point is the effect more imposing than at the entrance to the grounds from the low-level station. To the right is the broad receding lawn and massive beds of *Geraniums*, &c.; to the left the still broader and extremely fine beds of *Dahlias*, with masses of *Tritomas* and *Helianthus* in the distance; and in the front is the artistically arranged bank round the roseray, and the series of round carpet beds on the sloping lawn, which must rank amongst the most effective beds in any of the public metropolitan parks and gardens.

A few of the isolated beds on the lawn may first be noticed. The best of the brilliant scarlet *Geraniums* is *Lady Constance Grosvenor*; it is extremely floriferous, lively, and bright. *Vesuvius* also is excellent. The best pure pink variety is *Cleopatra*; and *Amaranth*, lilac pink, is very good. The best of the salmon is *Gloire de Corbenay*, and of the whites *Madame Vaucher*. *Waltham Nosegay* is unsurpassed as a crimson, and as a crimson-scarlet *Bonfire* is still pre-eminent. The round beds of the varieties named, edged with contrasting colours, are as good as *Geranium* beds possibly can be. Some large V-shaped beds at the corners of the walks are splendid, especially one planted with a centre of *Serena*, satiny pink, a broad band of *Bonfire*, and an edging of *Robert Fish*. Nearly equal to it, however, is the corresponding bed with

Duchess of Sutherland, crimson, in the centre, a band of (Cleopatra, and a margin of Vesuvius. Some Calceolaria beds (Golden Gem) are very fine, quite the best I have seen this year. A few mixed beds are pleasing, notably a silver variegated Geranium and Verbena venosa edged with Robert Fish, and a bed of variegated Tropæolum Minnie Warren associated with dwarf Ageratum Douglasii. This Ageratum is new; it is very dwarf, massive, and rich, blue rather than lavender, and

an acquisition. Countess of Stair is also employed effectively, but it is not so dissimilar from Imperial Dwarf as is the darker Douglasii. Mr. Wildsmith's Petunia Lord Eversleigh, purplish plum colour, is a fine bedder; and one of the most effective of Lobelias for edging large beds or for a second line in small beds is Glow-worm, raised by Mr. Rutland at Goodwood. It is extensively planted at the Crystal Palace, and its deep glowing colour renders it a general favourite.

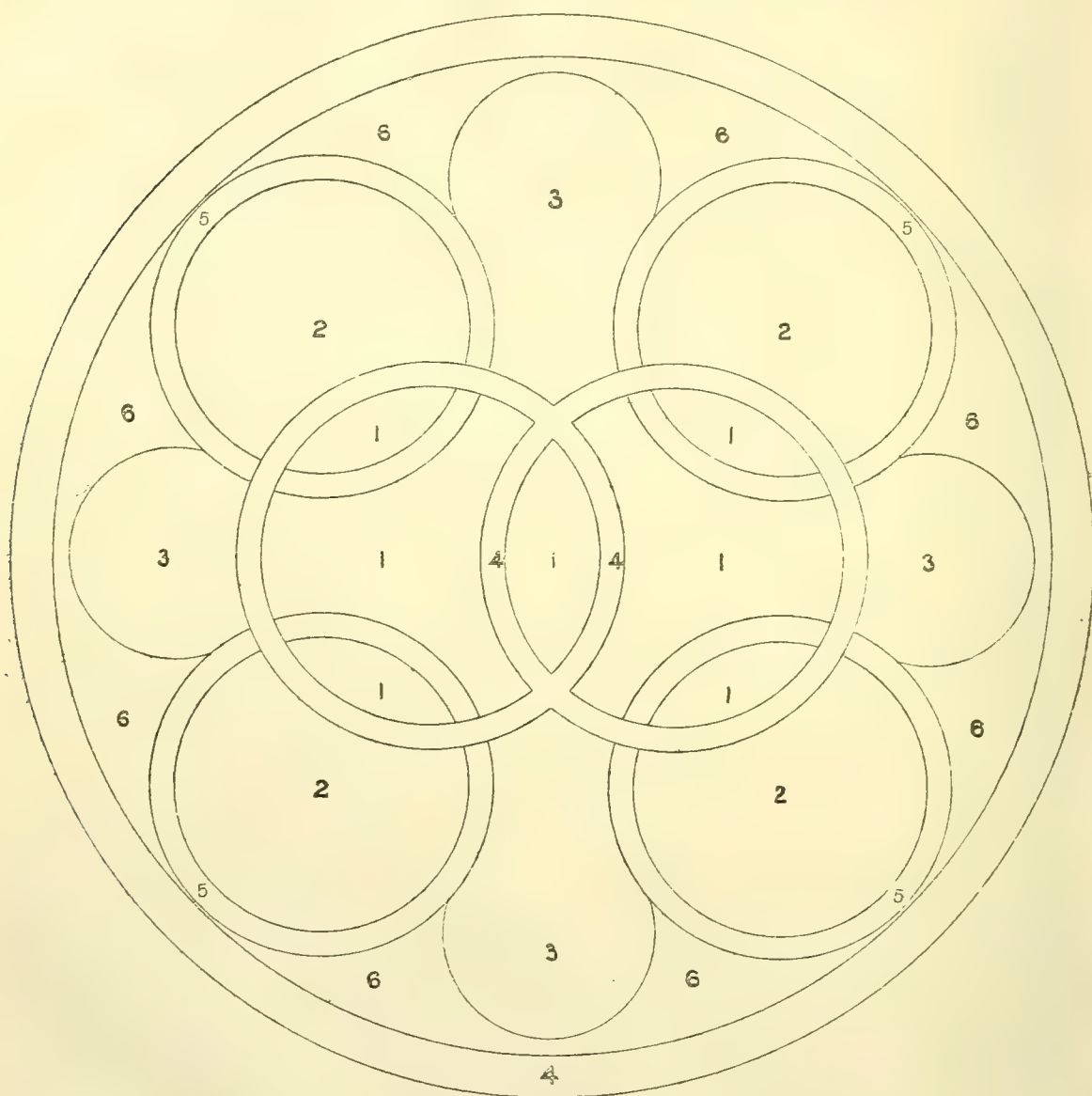


Fig. 46.—Scale of half an inch.

1. Alternanthera versicolor.
2. A. amena.

3. Leucophyton Brownii.
4. Pyrethrum Golden Feather.

5. Echeveria secunda glauca.
6. Sempervivum montanum.

The carpet beds have been planted so as to be effective from a distance while they will yet bear the scrutiny of close examination. Beds arranged with soft neutral colours are very chaste and pleasing when closely examined; but the majority of visitors to the Palace do not submit the combinations of colour to microscopical examination, hence bright colours have not been eschewed by Mr. Thomson, yet there is no suspicion of mere gaudiness. Cheerfulness and uniformity has mainly been imparted to the beds by a simple ring of Golden Feather. This contrasts admirably with the broad expanse of green grass, and the beds thus edged have a more satisfactory appearance than have others which are edged with silvery-foliated

plants. The characteristics of the carpet arrangements are boldness and simplicity rather than novelty and intricacy. For instance, one bed (it may be referred to as No. 1) contains a tracery of the trailing variegated Geranium Duke of Edinburgh, with panels of Mentha and angles of Alternanthera and Echeveria. No. 2 has a cross of Iresine Lindeni, panels (half circles) of golden bicolor Geraniums Black Douglas and Veronica incana, and a tracery of green Saxifraga and Alternanthera. No. 3 has an interlocking tracery of Lobelia Blue King and Golden Feather, with panels of Echeverias, Alternantheras, and Coleus. No. 4 has a diamond of Tagetes (what a charming green carpet plant this still is as managed here!), a broad

surrounding belt of Golden Feather, terminating in circles at the points of the diamond, another band of *Veronica incana*, angles of *Alternanthera*, and a ring of green *Saxifraga* next the margin of Golden Feather. No. 5 has interlocking links of Golden Feather and *Echeveria*, the centres filled with *Alternanthera amena*, with angles of *Alternanthera versicolor*, *Sempervivum montanum*, and *Leucophyton*. No. 6 has a star of *Iresine Lindeni*, with bands of Golden Feather, *Tagetes*,

and *Lobelia*; angles of *Veronica incana*, and ring of *Alternanthera magnifica*. These are a few typical beds "taken as they come," not selected, and all of them and many more are excellent. The plants named and their association may be suggestive. As to the designs, they are founded on simple geometrical rules, and anyone with a pair of compasses or a peg and string need not be long at a loss for a pattern. Diagrams of two beds are submitted, which afford an idea of the

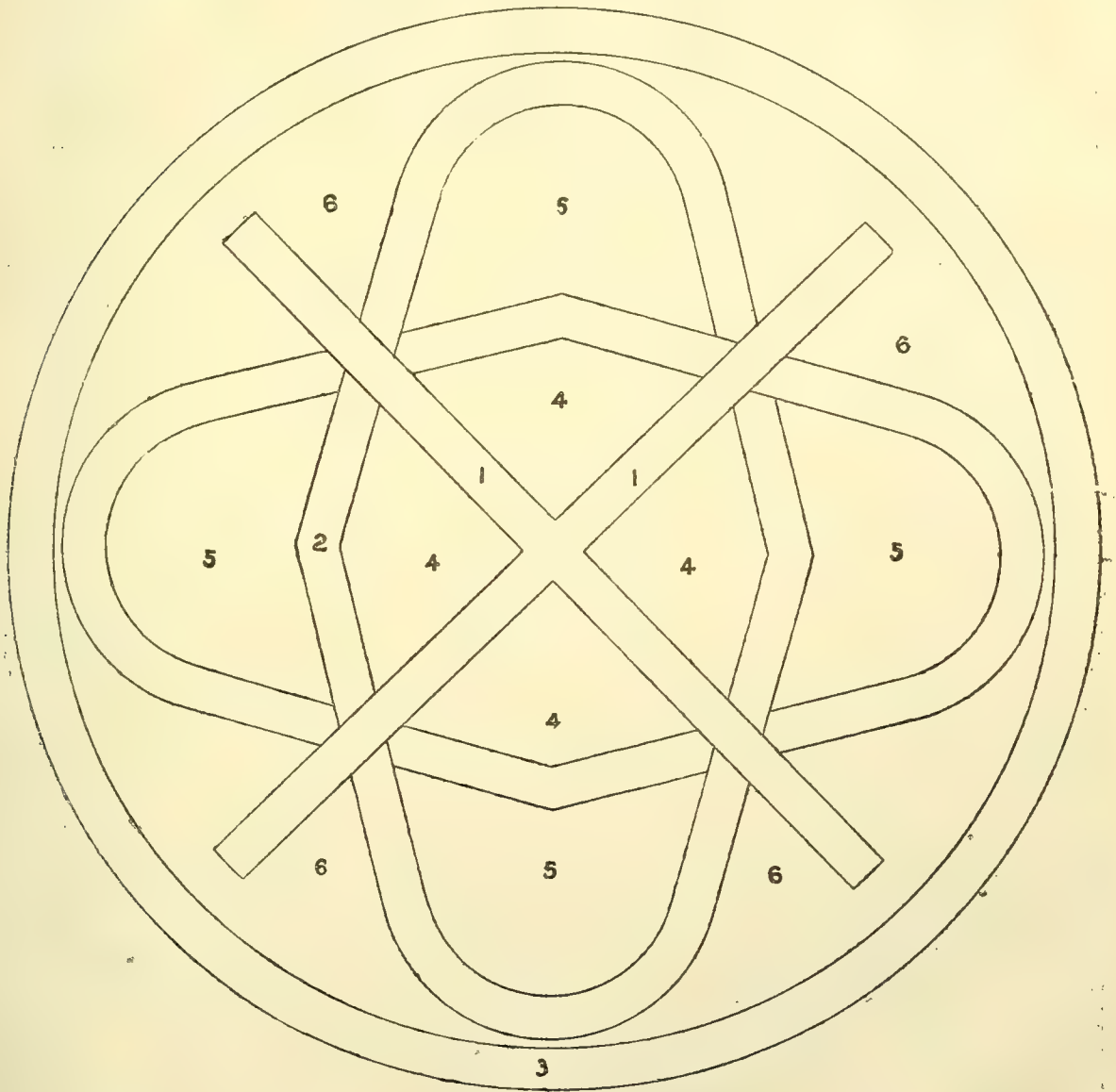


Fig 47.—Scale of half an inch.

1. *Iresine Lindeni*.
2. *Saxifraga* sp. (green).

3. *Pyrethrum Golden Feather*.
4. *Pelargonium*, or *Geranium*, Black Douglas (bronze).

5. *Veronica incana* (grey).
6. *Alternanthera magnifica*.

character of the patterns which prevail throughout the series; but all the beds are different. They are about 12 feet in diameter.

The circular bank round the rosety, which is 9 feet wide, is very beautiful. It is planted somewhat as follows:—In the centre of the bank, at intervals of 9 or 10 feet, are somewhat kite-shaped pendants of *Centaurea ragusina*, surrounded and connected with *Iresine Lindeni*. In the front of this are zigzag belts of Golden Superb *Geranium*, Blue King *Lobelia*, and *Leucophyton*. Next the walk is a margin of *Echeverias*, and between them and the *Leucophyton* are angles of *Alternanthera paronychioides major* in brilliant colour. At the

back of the *Centaurea* and *Iresine* the large half-circular spaces are filled with *Geraniums*, pink and scarlet alternately, backed with a row of silver variegated *Geranium* next the green edge of the *Roses*. The balance of colour in this bank is admirable, and the general effect of the arrangement is extremely good.

In fine contrast to the bank and carpet beds in connection are the large *Dahlia* beds on the adjacent lawn. These are bedding *Dahlias*, which bloom earlier and more profusely than the show varieties. The plants here have been rich masses of bloom for some time past, and will continue gay until destroyed by frost. Why are not these *Dahlias* and the charming bouquet

varieties more generally grown? Nothing can be finer from the beginning of August onwards. The beds are round and very large. They are mostly planted with a mixed variety of show sorts in the centre, with contrasting rings of two bedding varieties. Of these Rising Sun is the best dwarf scarlet, Zelinda the best maroon, Alba floribunda nana the best white, and Yellow Pet the best yellow. The last-named is a comparatively new variety raised by Mr. Turner of Slough. It grows $2\frac{1}{2}$ to 3 feet high, is extremely floriferous, early, bright in colour, and altogether good. During the early part of the season these beds were gay with Hollyhocks and Delphiniums, between which the Dahlias were planted. Some of the beds are edged with Golden Feather and the others with Gnaphalium lanatum, but the Golden Feather is the more effective. The beauty of these beds is enhanced by the great extent of lawn surrounding them and its excellent keeping. A grand bed of Tritomas, Phloxes, and double yellow Helianthus demands notice. It glows like a fire from the great mass of brilliant colour. Tritomas also at the foot of the southern terrace wall, which in one part is covered with Roses, have a fine effect; and the old-fashioned Monthly China Rose, which is employed as an edging to some of the Rhododendron beds, is still blooming freely, and will continue doing so even after the Dahlias and most other flowers are destroyed by frost.

On the upper terrace next the building are many well-filled carpet beds, and the chain of beds in the panels are filled with the same established bedding Geraniums noticed above. Some alteration has been made round the pedestal vases on this terrace. Formerly a small bed encircled by a ring of turf, then another bed, were arranged round each vase; but now the turf is removed and each pedestal stands in a large bed. The centres of these beds, being Dahlias surrounded with Geraniums and edged with Glow-worm Lobelias, have an excellent effect. The alteration noticed is certainly a great improvement.

The interior of the Palace is equally worthy of inspection. The western wing contains many fine Palms, and dead trunks of Tree Ferns are turned to account as supporting mediums for Ferns of smaller growth. The effect produced by these, crowned as they are with healthy plants of Lomarias, are quite ornamental. In the adjoining structure are some fine trees, real trees, of Camellias; also Oranges, which the public rarely see. A structure adjoining the aquarium—a continuation of it—is decorated with Ferns and other ornamental-foliaged plants. These wings are mere adjuncts to the huge building, the plants and trees of which are remarkably clean and healthy. The groups of plants—Dracenas, Musas, &c., in the Alhambra Court and the Fern Grotto there are well worthy of inspection, and the manner in which seedling Dicksonias are raised in the Palace is noticeable. Round some of the fine specimens planted out in the borders ridges of peat, a few feet from the stems, are placed. These are kept moist, and seedlings spring up by thousands; but on the level ground, which is also kept moist, the spores do not germinate at all. Why? The answer is very simple when once Mr. Thomson tells it. Because they are washed away or too much disturbed by the heavy watering which is given to the roots. Sufficient Dicksonias will soon be raised to plant the building. The hanging baskets overhead are extremely fine this year. They are mostly filled with trailing Cape Geraniums brightened with common Tropaeolums. It is surprising that the plants in the colossal building can be preserved in such good health and kept so clean by a body of only seventeen men, who have also an extent of preparing houses to attend to equal to those of a good-sized nursery. In this department is a splendid collection of Chrysanthemums in pots, about two thousand plants, which will make a grand display during the late autumn months. The Crystal Palace never looked better, if as well, as at the present time, and it will repay a visit to all who are desirous of seeing garden decoration well and effectively carried out.—J. W.

GRAPES CRACKING.

At page 220 you tell "M. R. P." that the cause of his Grapes cracking is the Vine supplying sap faster than the skins of the berries can expand. This is quite correct; but it certainly has its causes, and I think its remedies. Keeping the shoots closely pinched when the Vine is growing vigorously causes the sap to flow stronger into the fruit. Where Vines are growing close together, as they are in most cases, it is impossible to let the side shoots run far enough out to use the extra sap. I have tried a plan to counteract this this season,

which, so far as I am aware, is original, and it certainly answers the purpose well. The laterals on the Vines have been pinched in the ordinary way up to the last three or four shoots from the top. On these the laterals have been allowed to grow. This gives a greater number of leaves to supply with sap at the top of the Vine, and instead of a great pressure of sap running into the side shoots and berries the most of it flows to the top, where it is no way restricted. Under this treatment there was not a single berry cracked or split this year, and a noted Grape-grower told us the other day that our Vine wood of this year was very luxuriant. These top shoots are not taken off until the wood has become brown and the flow of sap declining. They do no harm through giving a little extra shade to the top, and as the mass of leaves break the current of cold air which sometimes enters at the top lights they do much more good than ill.—A KITCHEN GARDENER.

CARLISLE INTERNATIONAL SHOW.

SEPTEMBER 6TH, 7TH, AND 8TH.

CUT FLOWERS.

IN the horticultural world, whenever it was wanted to indicate the most miserable day on which a show was ever held, the first day of the provincial Show of the Royal Horticultural Society at Birmingham always came to the lips; but I fear it must in its turn give way to the first day of the International Show at Carlisle, for a more miserable, wretched, dreary one never marred the hopes or disappointed the well-grounded expectations of an energetic Committee. The Castle Sawceries were indeed saucers, for the heavy rains of the past few weeks had converted the meadows into sponges, so that when such a down-pour came as it did on Thursday it had no chance of getting away, and the dismal swamp could hardly have more deserved its name. By-the-by, the derivation of the word Sawceries was given to me as that of Saugheries, which in broad Scotch means the Place of Willows. Some idea of the condition of things with regard to cut flowers may be imagined when I say that the largest grower of Gladioli in Scotland had not one spike in bloom and had dug a trench a foot deep round his beds to carry off the water, and that while I in Kent had been gathering ripe Figs from my standard trees Gooseberries were not ripe in Scotland. What, then, was to be expected? Gladioli were almost unrepresented, Hollyhocks by six of the most rubbishy spikes ever seen, Asters indifferent, and the only flowers that were at all presentable were our good friends the Rose and the Dahlia. Of these some good boxes were shown.

Mr. Cranston of Hereford sent some fine Roses not for competition; and the executors of Mr. J. Harrison, Darlington, contributed a good stand consisting of Charles Lefebvre, Mlle. Marguerite Dombrain, Alfred Colomb, Princess Beatrice, Marie Baumann, Alice Derreux, J. Stuart Mill, Etienne Levet, Comtesse de Serenyi, Mons. E. Y. Teas, Francois Michelin, Madame Bravy, Beauty of Waltham, Catherine Mermet, Leopold Hausburg, Sir Garnet Wolseley, Belle Normande, Augusta Rigotard, Emilie Hausburg, Louis Van Houtte, La France, Dupuy Jamain, Lælia, Thomas Mills. There were only a few boxes of Dahlias, the best being those of Messrs. Dickson & Son, Newtonards, County Down, Ireland, for Rival Harris, Julia Wyatt, Henry Walton, Cremorne, J. McMillan, Mrs. Stoncomb, Dr. Moffatt, James Cachet, Hugh Miller, Vice-President, Charles Backhouse, Jenny Austin, Negro Boy, Lady Gladys Herbert, John Bennett, Alexander Cramond, Rev. J. B. M. Camm, John Standish, Royal Queen, and Ovid. In twelve fancies Mr. Dickson also first with Laura Haslam, Sparkler, Coronation, Mrs. Sanders, Miss L. Sage, Mrs. Brown, John Salter, Fanny Sturt, Richard Dean, and Rev. J. B. M. Camm.

I had hoped to have seen some good Gladioli from my friends Lord Hawke, Mr. Galloway, Mr. Orichton, and others; but alas! there were but two stands, one a most miserable stand of seedlings in the nurserymen's class, and one in the amateurs' exhibited by Mr. R. Gray, gardener, Killorchan, Castle Girvan. In this there were three good blooms—Aramis, Adolphe Brongniart, and Lacépède; the rest were indifferent. In no other class except Pansies was there anything worth recording, and of these some good stands were shown, although the flowers were small.

TABLE DECORATIONS.

The valuable prize of a cup, value £25, offered by Lady Muncester, brought together eleven competitors, and I may with safety say that some of them were as creditable as ever I saw set up, although as usual there was much questioning of the Judges' decision; but in this the first prize was excluded, for even the defeated competitors acknowledged its excellence. It was set up by Mr. James Cypher of Cheltenham, and displayed admirable taste. The three centre vases were light and elegant; the sprays of Orchids, the flowers of Gloriosa superba, and the fronds of Maiden-hair Fern had a most pleasing effect. The table was not overcrowded, and all the appointments were good.

The second prize was, I think, wrongly awarded: the tables were too full, and the articles containing the flowers and fruit were arranged in three straight lines. One table was conspicuous for a heavy epergne which seemed as if it required someone to hold it up. Another was terribly overloaded, but seven out of the eleven were arranged with taste and skill. There was a very large number of bouquets, and some of them evinced very great taste, notably those of Mr. Perkins of Leamington, being neither heavy nor overcrowded. It is evident that, in some parts of the country at least, a better taste in these matters is beginning to prevail, and that we shall no longer have our eyes vexed with the inartistic abominations of former days.

It was in truth a great Show, but no attempt at artistic arrangement was made anywhere, and success depended on the excellence of the exhibits alone; and terrible indeed was the scene. Never shall I forget the luncheon, from which I beat a hasty retreat, although many even of the ladies sat it out. Sir Wilfred Lawson did not remain for it, but assuredly he might have done so, for his favourite element was there in abundance. Oh that I had the pencil of poor John Leech to portray the portly form of my reverend brother of Causton, as in broad-brimmed canonical hat and great coat he sat crouched under an umbrella sipping half-cold soup! It was a sight well worth seeing. I can only hope that better fortunes dawned on the promoters on Friday, or else there must be a heavy reckoning for the guarantee fund. It would be unfair to close these few notes without acknowledging the excellent and thoughtful accommodation made for the Judges; nothing could have been better, and one and all appreciated it.—D., *Deal*.

ALEXANDRA PALACE GREAT INTERNATIONAL FRUIT SHOW.

13TH, 14TH, AND 15TH SEPTEMBER.

THE liberal prizes offered by the lessees of the Alexandra Palace for fruit, vegetables, cut flowers, and table decorations brought together a very good display—a far better display than could have been expected from the general scarceness of outdoor fruit this season. The productions sent completely filled the large centre hall. Grapes were exceptionally good and shown in large numbers, no less than twenty classes being set apart for them. Peaches and Nectarines were very good, but perhaps not so extensively shown as in some previous years, and these same remarks will apply to most of the other sections of fruit classes. Dahlias were most extensively shown and in most excellent trim, as also were Asters, while the cut blooms of Roses—which came from Messrs. Paul & Son, Messrs. Cranston & Co., and several other exhibitors—were in splendid condition, and formed a very attractive addition to the Exhibition. Vegetables and salad were also shown in large numbers and in splendid condition.

Following in the order of the schedule Class I is for collection of sixteen sorts of fruits—not more than four sorts of Grapes, two sorts of Pines, and two sorts of Melons, for which the first prize is £16. This brought three remarkable even collections, and Mr. Coleman, gardener to Earl Somers, Eastnor Castle, was awarded the first prize for first-rate dishes of Muscat of Alexandria, Black Hamburg, Lady Downe's, and Madresfield Court Grapes, Pine Apple and Oldenburg Nectarines, Violette Hâtive and Early Crawford Peaches (very fine), Golden Gem and Eastnor Castle Melons, fine fruits of Smooth Cayenne and Black Jamaica Pines, large Brown Turkey Figs, Green Gage Plum, Pitmaston, Duchesse d'Angoulême Pears, and Morello Cherries. Mr. Thos. Bannerman was placed second with a very fine collection, and Mr. J. H. Goodacre, Elvaston Castle, Derby, third with a very smart and excellent lot. In the class for twelve sorts exclusive of Pines there were only two competitors. Mr. Neighbour, gardener to G. Wythes, Esq., Bickley, Kent, was first with very fair examples of Foster's Seedling, Black Hamburg, and Muscat of Alexandria Grapes, White Magnum Bonum and Victoria Plums, Violette Hâtive and Bellegarde Peaches, Brown Turkey Figs, Pitmaston Orange Nectarines, a Scarlet-flesh Melon, Jargonelle Pears, and White Currants. Mr. Rushmore, gardener to Sir C. R. Rowley, Bart., Colchester, was placed second with very good examples. For twelve sorts of fruits exclusive of Pines and Grapes Mr. Cox, gardener to Lord Beauchamp, Madresfield Court, and Mr. Thos. Crane, gardener to the Rev. L. Deedes, Bramfield Rectory, Hertford, were first and second respectively. Mr. Cox's collection contained good examples of Violette Hâtive and Crawford's Early Peaches, Goliath and Green Gage Plums, Irish Peach Apple, Jargonelle Pears, Warrington Gooseberries, Morello Cherries, Oldenburg and Downton Nectarines.

PINES.—Three classes for Pines were fairly represented, and the two best Smooth Cayennes came from Mr. Ross, gardener to C. Eyre, Esq., Newbury; Mr. W. Toomer, gardener to W. Knowles, Esq., Streatham, being placed next in order of merit; and the best pair of Queens, very even and good fruit, came from Mr. J. Churchfield, gardener to H. Littleton, Esq., Westwood House, Sydenham; while Mr. Toomer and Mr. Webb were placed

second and third respectively, and for two of any other kind Mr. Coleman was awarded the second prize.

GRAPES.—The first prize for eight varieties, one bunch of each, went to Messrs. Lane & Sons, Berkhamstead, for splendidly finished bunches of Gros Colman, Bowood Muscat, Black Hamburg, Muscat of Alexandria, Muscat Hamburg, Pearson's new Golden Queen, Alicante, and Trebbiano. Mr. W. Wildsmith, gardener to Lord Eversfield, Heckfield Place, winning second honours with bunches somewhat smaller and not quite so well coloured as the first-prize collection. Seven good collections were staged in the class for four varieties. Mr. Coleman was awarded the first prize for Madresfield Court, Black Hamburg, Lady Downe's, and Muscat of Alexandria, all finished in his well-known style. Mr. Bannerman came second with good examples of Alicante, Gros Colman, Trebbiano, and Black Hamburg. Mr. T. Coomber, gardener to Allan Rolls, Esq., Monmouth, third. In the class for three bunches of Black Hamburgs there were nine competitors, Messrs. Coleman, Coomber, Bannerman, and Edwards sharing the honours in the order named. Buckland Sweetwater was represented by five competitors, and the best came from Mr. J. Bain, gardener to Sir C. R. Boughton, Downton Hall, Salop; the next best from Mr. Miles, gardener to Lord Carlington, Wycombe Abbey; the third prize going to Messrs. Lane & Son. For three bunches of Madresfield Court, Mr. J. W. Chard, Salisbury; Mr. C. Tyler, gardener to R. Gosling, Esq., Hassobury; and Mr. Toomer, were placed first, second, and third respectively. Seven collections of Black Alicante were staged, and Mr. J. Freeman, Beechwood Park, Dunstable, was placed first with remarkably well-finished bunches; Mr. Peed, Roupell Park Nurseries, being a very good second; Messrs. Lane & Son, third; and an extra prize awarded to Mr. Goodacre. Lady Downe's was also well represented, and the best bunches came from Mr. Wright, Thurleston Lodge, Ipswich; and from Mr. Tyler, and Mr. Reeves, Grass Farm, Finchley, who were placed first, second, and third respectively, and an extra prize being awarded to Mr. Bannerman. Muscat of Alexandria was also extensively shown, and Mr. Coleman was again to the fore with three of the best bunches in the Exhibition, followed by Messrs. Lane & Son who were placed second, and third went to Mr. Wattam, gardener to A. H. Longman, Esq., Hemel Hempstead. Mr. Tyler was awarded an extra. For a single bunch of Black Hamburg Mr. Wildsmith was awarded the first prize for a splendid bunch, both for size of berry and an intense black colour. Mr. Cooper, gardener to M. Yeatman, Esq., was placed second, the third prize being withheld. Mr. Taylor, gardener to J. Johnstone, Esq., Hampstead, Mr. Wildsmith, and Mr. Cooper were placed in the order named for one bunch of Foster's Seedling. The first prize for a bunch of Madresfield Court was awarded to Mr. Peed, and the second prize to Mr. Cox, whose bunch was by far the largest but inferior in point of colour. For Black Alicante Mr. Peed was again first and Mr. Wildsmith second; and for Lady Downe's the first prize was withheld, the second prize going to Mr. Cooper.

For the finest-flavoured black Grapes fourteen collections were staged. Mr. Bannerman was awarded the first prize; Mr. Lane, gardener to Major-General Pfyche, the second; and Mr. Wildsmith the third; and for the best flavoured white Grapes Messrs. Coleman, Bannerman, and Bashford were placed first, second, and third respectively. Mr. Peed took the first prize for the heaviest bunch of Grapes (black) with Barbarossa, 5½ lbs.; Mr. Wildsmith second with a bunch 5 lbs. 2 ozs.; and the third prize to Mr. Coleman. For the heaviest bunch (white) the first prize was withheld. Mr. Wildsmith being placed second with White Nice, weight 6 lbs. 14 ozs.; and Mr. Peed third with Trebbiano, weight 3 lbs. 12 ozs. There was a keen competition in the two classes for baskets of Grapes not to exceed 12 lbs., Mr. Coleman winning the first prize in both classes with Black Hamburg and Muscat of Alexandria, which were grand; and Messrs. P. S. Kay, Finchley, was awarded second for blacks and third for whites, and Mr. Thomas was placed third with Black Hamburg and second for Muscats.

In the class for twelve Peaches there were eight competitors, and the best was a dish of Prince of Wales from Messrs. Haycock, Barham Court, Maidstone. Mr. Jones, Frogmore, took the second prize with Barrington Peach, and the third was awarded to Mr. J. Maher, gardener to C. Allhusen, Esq., Stoke Court, Slough, for Crawford's Early. Mr. Coomber was placed first with Royal George out of eleven exhibits for six Peaches, Mr. H. J. Clayton second with Late Admirable, and Mr. J. Seymour third with Bellegarde. Mr. Coomber, Mr. Haycock, and Mr. Seymour were placed in the order named for twelve Nectarines, the first prize being awarded to a dish of Pitmaston Orange; and in the corresponding class for six Mr. Coleman was placed first, Mr. Green second, and Mr. Crane third.

Figs were both plentiful and good. Messrs. Chisholm, Miller, and Coleman were placed in the order named.

The best Jefferson's Plum came from Mr. Clayton; the second from Mr. Pragnell, gardener to D. W. Digby, Esq., Sherborne Castle; the third from Mr. Murrell, gardener to A. R. Allerton,

Esq., Colemans, Essex. Mr. Murrell also exhibited the bese Kirke's, and Mr. Haycock gained the second place. For twelve Green Gages Mr. J. Fry, gardener to L. J. Baker, Esq., Haydon Hall, Pinner, was first; Mr. Cox second, and Mr. Neighbour third. For twelve of any other sort Mr. Haycock took the first place with Transparent Gage, Mr. Fry second with Belgian Purple, and Mr. Neighbour third with White Magnum Bonum.

PEARS.—The class for twelve sorts of Pears, two of each, were represented by no less than fourteen entries containing most of the popular kinds, and as they could be shown either ripe or unripe they were not so attractive as they would have been could they all have been shown ripe. Mr. Haycock was awarded the first prize with a very good lot. Mr. Fowler, gardener to Sir H. Mildmay, Bart., Dogmersfield, second; and Mr. Holder, gardener to W. Balston, Esq., Maidstone, third. Extra, Mr. T. Jones, Frogmore. Messrs. Coleman, Haycock, and Harris were first, second, and third respectively for Pears fit for table, all winning with Jargonelle. The best Williams' Bon Chrétien came from Messrs. Holder, Jones, and Haycock in the order named; and the six heaviest Pears came from Mr. Holder (Grosse Calebasse), weight 6 lbs. 7 ozs. Mr. Bromfield was second with Beurré Clairgean, 5 lbs. 2 ozs.

DESSERT APPLES contained eighteen collections. Mr. Haycock was placed first, Mr. Goldsmith second, and Mr. Holder third; and for baking Apples there were twenty-five competitors. Mr. Goldsmith, gardener to H. T. Lambert, Esq., Bletchingley, was first, Mr. Haycock second, and Mr. Holder third. For twelve dessert Apples, three of each sort, Mr. Haycock was again first and Mr. Holder second. Strange to say there was no competition for the six heaviest Apples.

Mr. W. Holder showed the best green-flesh Melon, Bromham Hall, and Mr. J. Bain the best scarlet-flesh, Reid's Scarlet. The competition was strong in both classes.

A portion of the schedule was set apart for foreign exhibitors, including the Channel Islands. This is a very good arrangement, and affords our home growers a better chance of competing on fairer terms. The whole of the classes were well represented, and Messrs. F. Le Suer and J. and P. V. Pluck carried off the lion's share of the prizes.

VEGETABLES were shown both numerous and in excellent condition. There were seven collections of sixteen sorts, and the first prize was awarded to Mr. Pragnell, who had well-grown examples of Student Parsnip, excellent Cauliflowers, Early Nantes Carrot, Potato Model, Ne Plus Ultra Pea, Sutton's New Improved Garden White Turnip (very good), Sherborne Improved Onion, Celery, Vegetable Marrow, Cardoons, Cretan Leek, a fine brace of Tender-and-True Cucumber, Dwarf and Scarlet Runner Beans, Tomatoes, and some very fine Veitch's Improved Beet. Mr. Arkell, gardener to A. J. Skinner, Esq., Cheltenham, was placed second, and Mr. Miles third. Mr. Miles exhibited a remarkably excellent collection, which we wonder was not placed second. An extra prize was awarded to Mr. John Hepper. A capital lot of produce was also shown by nine competitors. In the class for six dishes Mr. W. Iggulden, gardener to R. B. Wingfield-Baker, Esq., Romford, was first, and Mr. Cox and Messrs. Smith & Son second and third respectively. Collections of salads were shown by Mr. Hepper, Mr. Pragnell, and Messrs. Smith & Son, who were placed in the order named.

Mr. W. Soder, gardener to O. Hanbury, Esq., Brentwood, was placed first for a table completely laid for ten persons, displaying fruit and flowers set forth to the best advantage. Mr. J. W. Chard, Salisbury, gained the second place, and Messrs. Dick Radclyffe & Co. the third. Miss Stuart, Seven Sisters Road, Holloway, had the best wedding bouquet, and Messrs. Gilbert and Son and Mr. G. Thomas were placed second and third respectively.

DAHLIAS.—In the class for forty-eight varieties Mr. Keynes, nurseryman, Salisbury, was first with grand blooms of Bessie Ford, Charles Wyatt, Miss Large, Flag of Truce, Ethel Newcome, Egyptian Prince, George Goodhall, John Bennett, Lady Gladys Herbert, Queen of York, Leah, Marchioness of Lorne, Princess of Prussia, Vice-President, Willie Eckford, James Service, Mrs. Henshaw, Ovid, Prince Arthur, Mrs. C. Kimberley, Baron Taunton, Royal Queen, Henry Bond, Cremorne, Hon. Sidney Herbert, Picotee Alexander Cramond, Mrs. J. Downie, J. N. Keynes, Mrs. Boston, James Cocker, Mrs. Harris, William Lucas, Louisa Neate, King of Primroses, John Standish, Thomas Goodman, and one or two others. Mr. S. Dobree, The Priory, Wellington, was placed second with a very fine collection, and Messrs. Rawlings, Bros., Old Church, Romford, third. In the class for twenty-four varieties, amateurs, the prizes were awarded to Messrs. Smith, Glasscock, and Quennell in the order named. Asters were well represented by Messrs. John & Lewis Morgan, Mr. R. Petfield, and Messrs. Saltmarsh & Sons.

Miscellaneous collections were numerous shown, and several of the most meritorious received extra prizes. To Messrs. Lane and Son for pot Vines; to Messrs. Paul & Son, Cheshunt, for a collection of forty pyramid Apple trees. This was indeed an interesting collection, and contained amongst others Cockle's Pippin, Claygate Pearmain, Old Golden Reinette, Manks Cod-

lin, Cellini Pippin, Wellington, Lamb Abbey Pearmain, Hawthornden, Yellow Ingestrie, Old Golden Pippin, Small's Admirable, Cox's Orange Pippin, King of the Pippins, Hereford Pearmain, Lord Nelson, and Cheshunt Pippin; and extra prizes were also awarded to Messrs. Paul & Son for a collection of eighty dishes of Apples and several boxes of cut Roses in good condition. Mr. Paul set up distinct boxes of Sénateur Vaisse, Alfred Colomb, and Baroness Rothschild. Messrs. Cranston and Co., Hereford, sent fourteen boxes of Roses, which included numerous varieties, for which an extra prize was worthily awarded. Mr. W. Paul of Waltham and Mr. W. Corp of Oxford were also awarded extra prizes for cut blooms of Roses. Mr. Jones, Her Majesty's gardener, Frogmore, contributed an extensive collection of Apples and Pears, for which an extra prize was awarded; also to Mr. Turner for a collection of Lilium auratum. Certificates of merit were awarded to Mr. Keynes for seedling Dahlias Maid of Athens, Bessie Ford, and Louisa Neate; and to Mr. Turner for Charles Lidgeard and Lady Golightly; to Messrs. Rawlings, Bros., for James Willing; and to Messrs. J. & P. Harris for Dahlia Constance. The arrangements of the Show were most excellent, and reflect much credit on Mr. McKenzie, and we also hope the lessees received that encouragement they deserved.

NOTES AND GLEANINGS.

THE CONFERENCE of the CRYPTOGRAMIC SOCIETY of SCOTLAND will be held at Dunkeld on October 17th, 18th, and 19th. All Fellows of the Society are requested to endeavour to attend the Conference; other botanists are cordially invited to attend. Fellows and others who purpose coming will oblige by communicating with the Secretary. The Council hopes that all Fellows who can will furnish papers and communications, to be read at the business meeting. The Show will be restricted to specimens from the district, but novelties from other districts will be very acceptable. The Society is now prepared to issue a First Century of "Fungi Scotici Exsiccati," which will contain many of the new species and rarities recently discovered. The subscription price is £1 1s.

— WE have received from Messrs. Rutley & Silverlock, of the Strand, a cake of "SOAP" which is made from the seed of the Tea plant, and which is said to be efficacious in destroying worms in lawns. It is much used in China for this purpose, and if it is found to be equally serviceable in this country Messrs. Rutley & Silverlock will have conferred a benefit on those who are careful to have a clean lawn.

— VASES and dinner ornaments may be very prettily filled with leaves properly preserved. Brackets may be made to resemble carving, and also picture frames. The bright tints of autumnal leaves are excellent for the purpose. Gather a good assortment, which may comprise every tint from crimson to scarlet, from scarlet to yellow, and from yellow to green. The red Beech and the Sumach are very useful, so are the Oak and Ferns. Smooth every leaf on the wrong side with a hot iron, holding it down a minute or two. Any leaves that are not flat must be soaked in water first. Then oil them over on the right side. Next, take a number of fine wire stems, and fix every leaf to a stem. Lay the leaf over the wire, which should extend the entire length of the leaf, to support it. The leaf is attached by its stalk to the artificial stem. Use the fine green-covered reel wire necessary in wax-flower-making for this. Afterwards cover the stems with green tissue paper or brown Berlin wool, and join them together in sprays. The individual leaves on each spray must be of the same kind and colour. Afterwards mix and arrange the sprays according to taste. Oak leaves and acorns gummed on a cardboard frame make good brackets, boxes, and picture-frames. Acorns and other berries used in this way ought first to be cut in half.—(Cassell's Household Guide.)

— HAVING received a note asking for some poetic addition suitable for a young gardener's epitaph, we referred to a little volume entitled "EPIGRAMS AND EPIGRAPHS," by the author of "Proverbial Folk-lore," and we selected from it the following:—

"He died young, and thus as oft-times seen,
The fruit God loves He's pleased to pluck while green."

The volume contains a good collection and well arranged.

— THE CHILI PINE AS A FOOD PLANT.—The beautiful Conifer (*Araucaria imbricata*) is looked upon as a fruit tree in its native country, Chili and Araucaria. The Indians and other inhabitants of those countries eat its seeds raw, roasted, and boiled. They are said to be very nutritious; about two hundred form a good meal for an adult. One seed-cone contains from two hundred to three hundred seeds, and every tree

bears many such cones, which, when they have arrived at maturity, drop to the ground. The seeds lie in such great numbers on the ground that only a part of them are collected. The Indians have also a way of making a kind of brandy from these seeds.

THE "Journal of Forestry" gives the following enumeration of remarkable WALNUT TREES:—A Walnut tree at Gordon Castle, Banffshire, stands 66 feet high and 11 feet in girth at 3 feet from the ground; and at Altyre, Morayshire, there is one 62 feet high, with a trunk 4 feet in diameter. At Blair Drummond, Perthshire, there is one 75 feet high, and 13 feet 7 inches in girth at 2 feet up; and one of the finest in Scotland is at Eccles, Dumfriesshire, 63 feet high, girth at base 22 feet, and at 12 feet up 13 feet girth. In England there are many fine old Walnut trees of which there is no record. There is a fine one at Rufford Abbey, Notts, the butt of which, although only 4 feet long, girths 21 feet 10 inches at 2 feet up. Another particularly remarkable tree, which grows at Downlands, Hants, measures 16 feet in girth, and contains 223 cubic feet of timber. The above are but pigmies in comparison with the prodigious size and great age which the Walnut tree attains in Eastern Europe. In the Baider Valley, near Balacalava, in the Crimea, grows a Walnut tree at least 1000 years old, which yields annually from 80,000 to 100,000 nuts, and belongs to five Tartar families, who share its produce equally. Scammozzi, an Italian architect, mentions having seen at St. Nicholas, in Lorraine, a single plank of the wood of the Walnut 25 feet wide, upon which the Emperor Frederick III. had given a sumptuous banquet.

ZONAL PELARGONIUMS AT PUTNEY.

WHEN we visited Mr. Roser and saw the masterly examples of Geraniums grown by him, and heard of the praises bestowed on several varieties of Mr. George's raising, we felt somewhat anxious to pay a visit to Mr. George at Putney, and see them growing at their own home. A rich treat was in store for us. In a three-quarter span house from 20 to 30 feet long there were hundreds of plants growing in 6-inch pots, the majority of the varieties being Mr. George's own seedlings, the whole of which were in full bloom (Zonals and Hybrid Nosegays), with flowers of various shades of colour, and trusses like Hydrangeas. We measured one of The Moor, a deep rich crimson flower, and it was just 11 inches over—that is, measuring from the lowermost petal on the one side to the same on the other.

Mr. George had a few very promising seedlings, additions to those already sent out by him, in flower at the time of our visit; one was a zonal flower of a distinct crimson scarlet, the flower perfect in shape and a large truss. The raiser thinks very highly of it, says it far surpasses anything he has ever produced before. It is to be named General Grant. There were also other promising seedlings, especially a deep orange scarlet Hybrid Nosegay. This was not named, but we understood it would be sent out along with General Grant. Conspicuous amongst the quantity of bloom we noted A. F. Barron, Par Excellence, Ivanhoe, Rose Unique, Royalist, Seraph, Salamander, Progress, Sir Garnet Wolseley, Mrs. J. George, Enchantress, Chancellor, Cromwell, The Shah, H. M. Stanley, and Negro Boy, all Mr. George's seedlings. There were numerous other varieties, for the house was one mass of colours, verily maintaining the fact that no other flowers but Zonal Pelargoniums could make such a show in such small space, and remain in bloom for so long—May to October. Mr. George perpetuates his stock in the manner described by Mr. Roser, and simply blooms them in 48 and 32-size pots. In the distance we saw some beds of H. M. Stanley, which is without doubt one of the finest bedding Geraniums we have. The numerous varieties sent out by him, and the excellent qualities they possess both in size of pip and truss as well as finish of flower, must rank Mr. George as one of the most successful raisers of both Zonal and Hybrid Nosegay Pelargoniums of the day.—AN EXHIBITOR.

THE APPLE ELECTION.

A FORTNIGHT from the publication of this letter in your Journal I intend closing the Apple election; will you therefore kindly use your editorial influence to induce Apple growers to forward more lists? The result will be published at a time when growers will be able to look over their own grounds and compare the results of the election with their own experience.

It is also a year to note the bearing properties of the different kinds, so as to know what to plant and what to avoid. After the election I shall be pleased to compare notes with other growers through the medium of your Journal.—LEWIS A. KILLICK, *Mount Pleasant, Langley, Maidstone.*

[We commend to the notice of our readers Mr. Killick's excellent suggestion for them to note the bearing properties of the different kinds. This will afford very valuable information in a year like the present, when so great a failure of the fruit crops has taken place. We may remind growers that the election is for fifteen dessert and the same number of kitchen Apples.—EDS. J. OF H.]

ROSE SHOWS.

HAVE the Roses shown at the various shows this year been up to the mark? Have they been up to the average? I fancy this may seem a startling question to some, but I do not know that there is any harm in putting it. If I state my own opinion in the most prosaic manner possible, I should simply answer the above question with a direct negative. I do not think that any stands shown by nurserymen or amateurs have been equal to what I remember five years ago. But more particularly do I think that this has been the case with the great nurserymen. It may be that my ideas have advanced, that what seemed to me magnificent five years ago now seems merely an ordinary stand, but somehow I do not think it is so. Mr. George Paul's stand at the Royal Horticultural Gardens the last time that that Society had a Rose show in a tent, and Mr. Baker's stands the year that he swept the board at Exeter, Crystal Palace, and Hereford, have in my opinion never been equalled. I was not at the Alexandra nor at Hereford, and I believe that the former show was one of the, if not the, best of the year; but I was at all the others, and I can confidently say, that with certain exceptions hereafter named, I saw no astonishingly good bloom shown. The exceptions were generally among the amateurs, although Mr. Curtis at Torquay certainly showed a bloom of Prince Camille de Rohan which I never saw equalled. Mr. Baker's bloom of Marie Van Houtte shown at Exeter was, in my opinion, the bloom of the season; and next to it I should place Mr. Curtis's Camille de Rohan, next to that the bloom of Marquise de Mortemart shown by Mr. Jowitt at Torquay.

Throughout the year the Teas have come to the front remarkably well. Mr. Cant's stands were always remarkable for good Teas, but this year he surpassed himself; but perhaps the best of the year were those shown by Mr. Mitchell of Pitt-down at the Crystal Palace. This year I have never known some of the Teas bloom so well before in the autumn, particularly Marie Van Houtte; indeed this Rose with me never does so well in summer as in the autumn.

With regard to a question asked by my friend "O. P. P.," as to the cultivation of these charming flowers in the north, I would recommend him to take up his Teas every autumn and plant them in pots, and take them into a conservatory till May, then plant them out again; or if he has not room for this, I would still advise him to lift the plants and place them in some sheltered corner, and during the frosts cover them over with mats. Plant them out again the next spring. It is almost hopeless to try and grow tender Teas in the north without protection.—WYLD SAVAGE.

RUFFORD ABBEY,

THE RESIDENCE OF HENRY SAVILLE, ESQ.

RUFFORD is a place of considerable antiquity, and was formerly called Rugford or Ramford. It is bounded on the north by Ollerton and Edwinstowe, on the west by the manor of Clipstone, and on the south by the Hundred of Bassetlaw. It is one of those places somewhat difficult of access, for it is nine miles from Tuxford (the nearest railway station) and eleven from Mansfield. The little market town of Ollerton, ten miles from Rufford, is pleasantly situated near the confluence of the Mann and the Rainworth water, on the Work-sop and Newark road.

It is always interesting to stroll through a country churchyard and read some of the inscriptions on the ancient stones; and on the church bell at Ollerton we meet with the following:—

"I to the church the living call,
And to the grave do summon all."

But the most singular epitaph is on the tomb of Francis

Thompson, who was for many years butler at Rufford Abbey. It runs as follows:—

"Beneath the droppings of this spout
There lies the body once so stout
Of Francis Thompson.
A soul this carcase once possess'd
Which for its virtues was carress'd
By all who knew the owner best.
The Rufford records can declare
His actions, who for seventy years
Both drew and drank its potent beer.
Fame mentions not in all that time
In this great butler the least crime
To stain his reputation.
To Envy's self we now appeal,
If aught of fault she can reveal,
To make her declaration.
Here rest, good shade, nor hell nor vermin fear.
Thy virtues guard thy soul, thy body good strong beer."
He died July 6th, 1739.

The principal entrance to the Abbey and grounds is from the Ollerton road through a noble pair of iron gates erected in excellent taste by the late Earl of Scarborough. On the opposite side the road there is a neat lodge surrounded with a nice flower garden, which at once impresses the visitor with a feeling of grandeur. From the entrance gates to the Abbey there is a fine avenue of Limes—"tall ancestral trees," which have weathered the storm of many a winter and stand dignified in their leafy grandeur. We now reach the Abbey, which presents an air of comfort seldom to be met with, and this, rather than structural excellence, appears to have been the prevailing motive of those who have converted an old monastic residence into a country gentleman's seat. It is difficult at this time to say how much of the present building is a remnant of the original Abbey. The architecture and masonry of the south end of the house are, at any rate, as old as the days of the first lay possessor—the Earl of Shrewsbury, and probably much older, but the interior arrangements have been so far altered from time to time as to leave little trace of the plan of the original building. Two important features, however, remain much as they were from the first—viz., the spacious hall and the crypt below it; the former was restored by the late Earl of Scarborough and fitted up in a manner suitable to its original intention and design; the latter was at the same time brought to light by the removal of a chaos of subterranean rubbish, and now, as well as being converted into useful purposes, it attracts the attention of archaeologists as a perfect specimen of a crypt of considerable antiquity.

The entrance to the Abbey is plain and unpretentious, and in character with the other architectural arrangements of the mansion. Bearing to the left we pass along a broad terrace walk. In the distance there is the Wilderness with its pleasant drives and its umbrageous walks. From the north-east corner of the Abbey we have a grand view of the Beech avenue, that extends across the park and is terminated by a pair of iron gates. South-east of the Abbey in the park there is an extensive lake, dotted here and there with islands, with an irregular and wooded margin, so essential in water scenery. This forms an important feature in the landscape. The pleasure grounds are separated from the park by a sunk fence, and from various parts of the Abbey the scenery is of a most imposing character. In the pleasure grounds I noticed some noble trees both deciduous and evergreen, including Cedars, Tulip Trees, fine Hollies resembling forest trees; and just on the border of the park there was at right angles to the Abbey a fine pair of variegated Sycamores, and between these a Purple Beech, the foliage of which contrasted most beautifully with the elegant variegation of the Sycamores. On the flights of steps leading to the drawing room there were some tastefully arranged vases filled with Geraniums and other bright-blooming plants, which contrasted favourably with the emerald green of the lawns and the diversified foliage of the shrubs and trees.

We next reach the rosery. Here the beds are formed into diamonds and half-diamonds, with narrow walks running between. The first display of bloom was over, but there was the promise of plenty of Roses for the autumn. Following Mr. Doe, the gardener, we pass along a broad terrace walk that skirts the park, and here I may just add that the latter contains upwards of 500 acres, and is well stocked with deer. Nature has done much for the park in its undulations, and it is also well wooded. On the right of this walk are the kitchen gardens, and at its termination is the flower garden. This covers nearly two acres, and is situated south of the kitchen garden.

It is bounded on the north side by the garden wall, 120 yards long and 10 feet high; on the east and north side by a Portugal Laurel hedge 9 feet high and 6 feet through at the base; the west side is open to the park. There is a border in front of the garden wall 15 feet wide planted in the ribbon style within 2 feet of the wall. Parallel with this border there is a broad gravel walk 9 feet wide, and then another border 12 feet wide planted in the same style as the other. On the border next the wall there were fourteen rows of plants as follows:—Beginning at the row next the walk, the first was *Cerastium tomentosum*; second, *Viola Perfection*; third, *Pansy Cremorne*, yellow; fourth, *Geranium Harry Hieover*; fifth, *Geranium Flower of Spring*; sixth, *Ageratum Imperial Dwarf*; seventh, *Geranium Christine*; eighth, *Geranium Bijou*; ninth, *Dell's Crimson Beet*; tenth, *Cineraria maritima*; eleventh, *Geranium Tom Thumb*; twelfth, *Geranium Stella*; thirteenth, *Perilla*; fourteenth, a very dark *Fuchsia*, which stands the winter and blooms during summer with great freedom. The first six rows of the border on the opposite side of the walk were planted just the same as the first six rows of the other border, and then beginning at the seventh row it was *Geranium Crystal Palace Gem*; eighth, *Dell's Crimson Beet*; ninth, *Cineraria maritima*; tenth, *Geranium Tom Thumb*; eleventh, *Geranium Beauty of Calderdale*; twelfth, *Geranium Harry Hieover*; thirteenth, *Pansy Rufford Pride*; fourteenth, *Alternanthera amœna*; fifteenth, *Cerastium tomentosum*. These beds looked exceedingly rich, and notwithstanding the constant downpour of rain for the previous fortnight the flowers were most brilliant. Besides these two broad borders there were three other sets of beds, all arranged in diamonds and half-diamonds. I did not measure the exact width of the beds, but each set would be about 15 feet wide. First there was a row of diamond beds down the centre, with gravel walks down each side and half-diamonds between the gravel and the grass. These beds extended the whole length of the garden, 120 yards, and were repeated three times over, with a narrow strip of grass running between each set of beds. I was not particularly struck with the beauty of the design, for so many beds all of the same size and shape, and all bounded with straight lines of the same length, appeared monotonous and oppressive. However, the planting was made the most of, and reflected great credit on Mr. Doe the head gardener. The ordinary run of bedding plants was used, carpet bedding not being attempted in this garden. *Coleuses* and *Iresines* were most effective as foliage plants, and *Pansies* and *Violas* as flowering plants. The splendid masses of *Violas* and *Pansies* at once stamp these plants as being invaluable for the summer decoration of the flower garden. There are no plants that produce the same number of flowers on the same area of foliage; they are also neat and compact in habit, dwarf and very hardy, and a large number of plants can be wintered in a small space. They are easily propagated, come into bloom with the first indications of spring, and stay with us till the flower garden is littered with withered foliage in the autumn. A season like the present—at least like what we have experienced down here in the midlands, where we have had more or less of rain most days lately, and sometimes our flower gardens submerged, *Geraniums*, *Petunias*, *Verbenas*, and the like have either presented a woe-begone appearance or run away to foliage; but the excessive rain not only suits *Pansies* and *Violas*, but increases their beauty. I have no doubt but when these bedding *Pansies* and *Violas* are better known they will be grown as extensively as the *Golden Feather Pyrethrum* and cultivated in every garden; and then the colours are so good and varied, and such a continuity of bloom—in fact, a perfect sheet of bloom from April to the beginning of winter. And there is yet another feature, which must be a very important one, especially with those having very small means for wintering tender plants—there is no glass structure required, no propagating pit, no fuel, no damping and shading, no covering or uncovering, are needed with them during winter; only a cold frame or turf pit, and in the absence of these they may be wintered at the foot of a south wall. The plants have no need to be disfigured as soon as they begin to bloom, which is the case just now with the *Geraniums*, and they require no special care after they are planted in their blooming quarters. At a place like Rufford, where no attempt is made at spring gardening, they can be planted out by the end of March, when they grow with greater vigour and are not affected with dry hot weather, which sets in later in the spring. The two *Pansies* grown at Rufford are *Cremorne*, yellow, and *Rufford Pride*, both raised by Mr. Holah some years ago when he was gardener there. I do not know whether

they are in the trade or not, but certainly they are sufficient to immortalise Mr. Holah's name. About thirty thousand plants were used to fill up the beds in this garden alone. Beyond the flower beds there was a Rose bed, perhaps 8 feet wide, and then a broad pure stream of water crossed by a wooden bridge, and on the other side the stream a bank of Rhododendrons the whole length of the garden. Down the centre there was a cross walk leading from the kitchen garden, on either side of which there were some splendid specimens of Pampas Grass (*Gynerium argenteum*), throwing up scores of spikes of bloom.

We must now leave this floral retreat and enter the more useful department of this demesne, the kitchen gardens; for as the late Dr. Johnson once said, there was no flower in the garden equal to the Cauliflower, and there these were growing with the greatest luxuriance and freedom in sufficient quantity

to gratify the most extravagant epicure of this wholesome vegetable. The kitchen gardens occupy about three acres surrounded by well-built brick walls, and divided into three compartments. Having passed through the gates we will lead the reader along the centre path. This is skirted with broad ribbon borders, and these are again interspersed with standard Roses. The ribbon borders are backed with espalier Apple trees, which separate the flowers from the vegetables beyond. Near the margin of the walks that run right and left were rows of Gooseberries and Currants mostly in the bush form, excepting a few Gooseberries trained to wires. The walls were clothed with Cherries, Pears, Plums, and Apricots, and one wall with a south-east aspect was entirely devoted to Peaches, but they were nearly destroyed by the frosts of last May. In regard to the fruit crops there was of Pears about half a crop, of Apricots only moderate, Cherries good, Peaches on the open wall

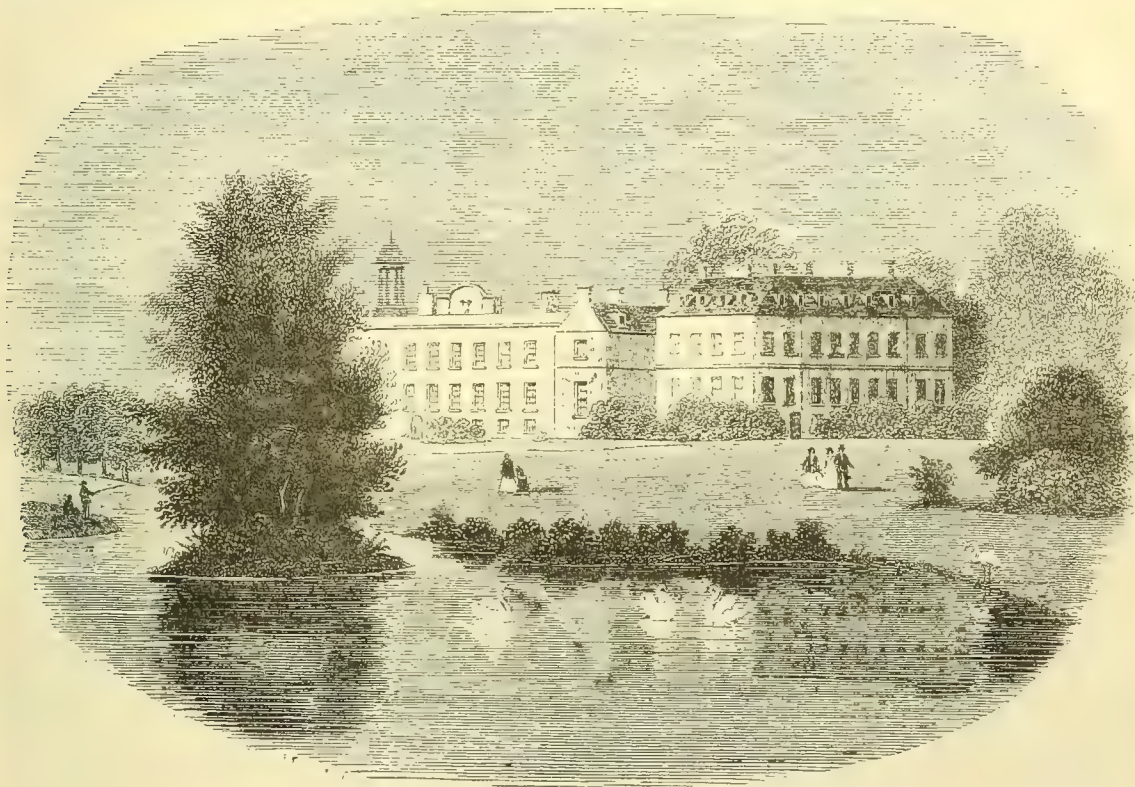


Fig. 48.—RUFFORD ABBEY.

two, how these would be divided between a large party I do not know unless they agreed to quarter them; Apples excellent, Gooseberries and Currants good, Raspberries an average crop, and the Strawberries most abundant.

The vegetable crops were also of a very high quality, and in this department Mr. Doe's skill as a caterer for either Mr. or Mrs. Cook were especially predominant. The Potato crops were heavy, but the disease had set in with a terrible vengeance.

We now enter a range of vineries in three compartments, intended for late work. They had been planted some time before Mr. Doe took charge of the gardens, but as they are not quite satisfactory some alteration is intended to be made. Figs in pots were plentiful. In a large house in proximity to those last named the Vines were in good condition, the foliage healthy and clean, and the Grapes an excellent colour. Near this vinery there was a small enclosure bounded by an Elm and Holly hedge, which enclosed a very handsome geometric flower garden. All the beds were surrounded with Box edging, and the walks were of gravel. The planting was tastefully done; but as the rain came on heavily we were unable to take notes of the arrangements.

In another range of houses in three divisions, the first 45 feet long, was filled with stove plants entirely for the de-

coration of the Abbey on festive occasions. Many of the plants were in 5 and 6-inch pots, and included such things as: *Dracænas* of sorts, Palms, *Caladiums*, *Crotons*, *Marantas*, and a few Orchids. The second house, 30 feet long, was chiefly Ferns, and contained a nice selection of *Lomarias*, *Davallias*, and *Adiantums*, all grown for a specific purpose. The third house in this range was also for stove plants, and contained a similar stock of plants to No. 1 in the same range. On the roof was a fine *Stephanotis* planted out in a small border. In the front of these houses I noticed ranges of pits for Cucumbers, &c. In an adjoining vinery there were some capital pot Vines, but the permanent ones were to be uprooted and the house replanted immediately. From this vinery we enter a greenhouse, where the plants are all grown for house decoration. The most useful class of plants was a fine strain of *Celosia pyramidalis plumosa*. The plumes were of the richest tints, and formed a fine contrast with foliage and flowering plants.

Retracing our steps we reach another vinery, from which the fruit had all been gathered and the Vines going to rest. In the same range we pass into an early Peach house, the wood in good condition and giving promise of fruit another season. The next house was also for Peaches and Nectarines,

and here the fruit, which was partly gathered, was of very high quality. In the front of these houses there was another flower garden, which was well done and such as Mr. Doe had good reason to be proud of. I was informed that the number of plants required for the flower gardens, ribbon lines in the kitchen garden, and the decoration of the various lodges on the estates, was upwards of 45,000.

We now leave the kitchen gardens and just peep into the usual slip or enclosure at the outside. Here were other useful houses, chiefly employed for Melons and Cucumbers. Of the latter Tender-and-True was very good, but I could not see that it was much in advance of the old Telegraph. In cold pits there was a multitude of Primulas, Cinerarias, Mignonette, Sweet-scented Verbenas, and thousands of other useful plants in their season of bloom. Mr. Doe has scarcely been at Rufford a year, but considering the amount of his labour these extensive grounds were in excellent keeping.—Q. R.

THE POTATO CROP.

SPRING and early summer cold and wet, the frosts in not a few instances cutting-off to the ground the tender haulm of the early crops. Ours, however, from not being above ground escaped. Though late, never, perhaps, was the Potato crop looking so well as this season. The haulm though strong was remarkably sturdy, lacking the rankness prognosticating disease.

During the great promise of the Potato crop a bill passed the Legislature, an order in Council followed, with the concomitant notice papers posted in conspicuous places to prevent the introduction and spread of the American Potato bug or Colorado beetle, a very pretty insect judging from the illustration. I confess to having seen nothing in the figured creature, nor in the accounts given of it, to cause fear of its making any great havoc of the Potato crop in this country should we be so unfortunate as to receive a visitation of this kind from across the Atlantic. Our brethren in America will assuredly exterminate this obstacle to their progress, as they have done or are doing with the buffalo and Red Indian.

The Colorado beetle, forsooth, eat up the Potato crop of the English-speaking race! It is well, perhaps, to be armed against a threatened invasion, than which, perhaps, none are better prepared. Not a Colorado beetle or any other bug, not omitting a "bug-bear," which is often proved by invasion panics, can maintain a footing upon our treasured soil. Our feathered friends would make speedy work of the hated intruder, and our climate annihilate the remnants.

We beat the air in the vain endeavour to catch a feather, all the while unable to see a real evil, one we have tolerated in our midst for more than thirty years without an effort being made at riddance. Our learned societies have done nothing, our Legislature less. Private enterprise has shown at last the resting-spore of the Potato fungus, but notwithstanding all our knowledge of the parasite one of the most important of our food products is literally rotting before our eyes. The tops of the Potatoes are a spotted, blackened, leafless mass; from beneath the soil is emitted a nauseating smell, and nothing is done to stay the plague, which means a dear loaf if not calamity as disastrous as the Potato famine of 1845 and 1846 decimating the sister isle, and it may be this time both. Nothing so certain, as when the Saxon finds his industry will bring him but half a loaf, every sacrifice that can be made will be made to make it a full one where the means for doing so exist.

There is little reliance to be placed upon private effort in taking the needful precautions to avoid a national calamity. This is well understood in respect of the sanitary precautions requisite for securing the greatest possible freedom from disease in towns. Proper drainage, removal of nuisances, properly constructed dwellings, are insisted on as conducive to the health and well-being of the general community, and yet no one cares anything further about the loss of half or more of a staple article of food-producing crop than to keep aloof from insisting that preventive measures be taken to prevent its prevalence. The failure of the Potato crop wholly or in part is a national loss, the burden of which is borne in chief by the humbler classes. It may be urged that we know nothing for certain respecting the Potato murrain, therefore for the Legislature to interfere would be iniquitous intermeddling with individual effort. Many do not believe in vaccination as a preventive of small pox, and not a few agriculturists insist on there being some cattle slaughtered that are not affected with rinderpest, or would

have survived were they let live. It is not only difficult but absolutely impossible to satisfy everyone, but in case of a national calamity, as that of disease decimating the subject or diminishing its food products, the interference of the Legislature is clearly necessary to prevent by known preventives the loss of one as well as any other food product. In brief, the Legislature interferes in so many ways directly and indirectly with the liberty of the subject to abuse or injure himself that no apology is needed for its interference with horticulturists and agriculturists in the cultivation of Potatoes. Experiments should be instituted at the public expense with a view to finding a compound in which coated or immersed the sets infected with disease would be destroyed along with its parasite, thus preventing the planting of infected tubers. This would at least rid us of one form of the disease—viz., curl, one result of planting infected tubers, if not, indeed, it be not the means by which the spores of the fungus are reproduced, and carried by every breeze over a wide tract of country, waiting only for the atmosphere to produce a condition of the Potato foliage favourable to their development. If at this time (which is generally at the close of June with early crops, and a month later with winter-supply crops, that the plants infected with curl begin to collapse), a dressing of the antidote experiment may determine as most fatal to the spores of the fungus, were applied, the Potato crop might be saved or the ravages of the fungus considerably mitigated. Then, when the disease had unmistakably commenced its attack upon the haulm, and was descending or had descended to the tubers, there being no question as to the prevalence of murrain in the field or plot, the owner should be notified by a public functionary to have the haulm of the Potatoes pulled-up, and as pulled burnt.

In lifting the tubers it should be made imperative to separate the diseased from the undiseased tubers, not allowing the diseased to lie upon the ground, but be cleared off as promptly as the sound Potatoes; it being insisted on that no one shall offer for sale or sell any diseased tubers so far as is discernible by the naked eye, which shall apply to those sold for food, whilst those sold for seed must have been disinfected before delivery.

Fine, and it may be imprisonment, would be necessary to enforce the regulations that might be suggested by a Royal commission and be made law by the Legislature. Many will, of course, be adverse to interference in such matters by the Legislature, but most will agree in the importunity of the subject. The imperfection of our knowledge of the fungus is no excuse for our allowing the half or more of a valuable food product to be wasted by neglecting to enforce those preventives experiment has proved desirable.

The Potato crop promises to be one of the worst as regards disease we have experienced for many years. The late wet weather has had a most prejudicial effect upon the field crops—the haulm is fast becoming leafless, their stems blackened, whilst the effluvia emitted is convincing, if proof were needed, that the fell destroyer is at work upon the tubers.

In the garden the early crops were good but late. Not a diseased tuber was found in the Veitch's and Myatt's Ashleafs, they being good in crop and excellent in quality. Lapstone, very susceptible of disease, was sound up to the third week in August, when a few diseased tubers were lifted, after which the disease spread with amazing rapidity. Within a week fully two-thirds of the tubers of Snowflake were infected with disease, and scarce a sound one to be found of Early Market, which, though a good-quality Potato and producing a quantity of tubers, is oft too small in size. It will not be grown again. Rector of Woodstock is in the same plight as Snowflake. Bountiful, not many bad; and Early Vermont nothing to complain of, though the haulm of both are gone. Of Victoria scarce a sound tuber is to be found; and though the Regents are not as yet much infested, they are losing the leaves and the stalks are badly blackened. Not since the years 1845 and 1846 have I seen or heard of so bad an infection. I have omitted mention of many kinds, which though fancy kinds have scarce a place for consumption, they being of little value beyond swelling the lists, gaining no favour except in the raw state at exhibitions—fine to look at—great bulky fellows that have no admirers by consumers. If there is anything that deserves to be called a sham it is Potato exhibitions, outward appearance and size being the chief points of a show kind, whereas the tuber's value is dependant upon its cropping and quality. In the fields there is great and general prevalence of disease, the appearance is such as to leave little doubt of the crops being as disastrously affected as the garden crops.

I have nothing to say with a view to preserving the crops affected other than seconding the remarks of your able correspondents who have advised the taking-up of the crops upon the first appearance of the disease in the haulm, or, without waiting for the disease to manifest itself in the haulm, take up the crop when full-sized or so soon as the setting of the skins will allow. This is capital advice, but quite impracticable with rain every day for three weeks or a month at a stretch. To lift Potatoes with the soil little better than mud would be suicidal, but to remove the haulm is an operation that may be performed when the raising of the tubers from the wetness of the soil is impracticable, for there is great difference between lifting rods in a garden and acres in fields.

Nor will I dwell on the means to be adopted for the avoidance of the disease, such as keeping of the seed in sheds exposed to atmospheric influence, the planting of kinds only that arrive early at maturity, with the avoidance of fresh stimulating manures in contact with the sets at planting, and those artificial ones which induce to an increase of haulm, being equally silent of "salus," inasmuch as though I hear of its strengthening the haulm, and there being few tubers diseased in those dressed therewith as compared with those not dressed, but I do not see in this anything further than the increased vigour of the plant, which implies the disease to be of weakened constitutional origin, resulting of the plant's subjection to an excess of organic manures, or their application to this particular crop, out of all proportion to the inorganic elements present in the soil, and forming such important constituents in the structure and maintenance in health of vegetable life, which is supported by the unerring evidence of facts, as in most instances the disease is most virulent in alluvial deposits—soil full of humus, those containing much decomposing vegetable or animal manures. The first diseased plot of Potatoes I saw this year was on land taken in or enclosed from a moor as a cottager's Potato ground. The ground may have been under crop with Potatoes near on to a decade, certainly for more than seven years consecutively cropped with Potatoes. The soil on the moor surrounding is a black spongy peat about 9 inches deep, destitute of silicious matter, with an under strata of sandy alumina, and a subsoil of stiff clay. The soil immediately beneath the peat is largely impregnated with oxide of iron, indeed the whole subsoil is so strongly impregnated with iron that the springs give out the red oxide to the water. The very life of such soil for cultivation is to be found in applications of lime, especially magnesian; but no such application had been applied, only organic substances. There was no mistaking the disease in the plot had its origin in curl, the remains of the plants collapsing of curl being disposed irregularly through the plot, the haulms of the other plants fast falling a prey to the disease. This was at the middle of July, and at the end the kind infected—I took it for Mona's Pride—was a mass of putrefaction. This was fully a month before we noticed any traces of the disease, and we had it a full fortnight before it appeared in the fields. In one field I noticed a part of about two acres with the haulm blackened and leafless, whilst the other part was apparently unaffected; in a fortnight they were badly infected.

My opinion is that we do nothing but propagate the disease wholesale—fold our arms and despondingly watch the ravages of the murrain, instead of promptly setting to work upon its advent and promptly removing every vestige of the disease in the haulm; and if we persist in this the probability is that we allayed its ravages upon the present crop. Secure sets untainted with disease for planting, it being well known that unripened tubers were known to be a sure remedy for curl so far back as 1806, it being propounded by Mr. Thomas Dickson of Edinburgh, in which he was confirmed by Mr. Knight. There is one other point worth mentioning in respect of unripe tubers for planting—viz., the earlier ripening of the resulting crop.

I mention these subjects to show that we are at least less practical in dealing with the disease of 1845 than was the case at the commencement of the century with curl, and that the best known preventives are identical with those then put forth as a preventive of curl.—G. ABBEY.

CHESHUNT HYBRID ROSE.

I WOULD desire to second most thoroughly what my good friend Canon Hole has said in last week's Journal, and to say how gladly we all welcome Mr. Peach's again wielding his pen.

It is rather hard, however, to have to differ from him in so doing; but so valuable is Cheshunt Hybrid esteemed in the south-west of Scotland, that Mr. Mackenzie at Newton Stewart, who has grown it pegged-down, now purposes (so thoroughly is he satisfied with it) to make one large bed in a small garden of it. When I was there in July it was in great beauty.—D., Deal.

NEWCASTLE BOTANICAL AND HORTICULTURAL SOCIETY—AUTUMN SHOW.

SEPTEMBER 12TH AND 13TH.

VIGOROUS even in old age is the characteristic of the Newcastle Botanical and Horticultural Society. Entered as it has on its fifty-third year, it appears still young—is, indeed, growing not only rapidly but substantially. To what is to be attributed the sudden—for it is sudden—resuscitation of this Society, which at one time was in a comparatively decrepid state? It may be summed up, perhaps, in two words—discretion, enthusiasm. Without enthusiasm the labour that has been given would never have been forthcoming; without discretion that labour would not have resulted so satisfactorily. But who has possessed these important requisites? Well, the Committee are anxious to debit them to the Honorary Secretaries, Messrs. Taylor and French, while the Secretaries attribute the improved position to the working Committee, such "good men and true" as the veteran Garrett and his younger associates, Messrs. Edward Wilson, jun., William Dinning, Tranah, Plummer, jun., Adams, and others.

That is a good sign—the best evidence not only that all have worked, but that they have worked in unity and harmony. The real improvement, therefore, that has taken place is traced to four essentials—discretion, enthusiasm, unity, and harmony. They are worth mentioning, for with them any society may flourish, as far, at least, as it is possible to make it do so; without them no organisation can long remain healthy and prosperous.

But wherein has this Society rendered itself so especially remarkable? Let a few, a very few, facts answer the question. Less than a year ago its subscription income was £180, and its liabilities £200; now its subscription income is nearly or quite £2000. In numbers the members a year ago were less than four hundred, now they are nearly four thousand. Such results are emphatically worthy of record, and Messrs. Taylor and French (for while admitting the valuable services of every member of the directorate), the gentlemen named must have the honour which according to the most impartial estimate that can be formed is rightly their due.

But who are Messrs. Taylor and French? is a question that will very naturally force itself uppermost. Gardeners? No, not gardeners, yet without the aid of gardeners such results could not have been achieved. The practical knowledge of gardeners has been applied by gentlemen of position in the mercantile world, whose commercial training has proved its power, and whose business aptitude has achieved success. The manner in which they have worked is, perhaps, not so easily apprehended, but it may be stated that they have visited shows in other districts and noted points both to adopt and to avoid. They have examined the systems of procedure of other societies with the same object. They have proceeded on a liberal scale—that is, when they have decided on a course they have carried out their plan fully and well. They have advertised and circularised systematically, and have secured support both local and general. Let an instance of "circularising" be noticed, for there is no teaching so cogent as example. Leaflets we will call them, setting forth in concise terms the advantages of a horticultural society, have been distributed systematically. With each a printed and ready-addressed postcard has been sent, requiring only the name of the subscriber and the amount of subscription entering. These have been returned by hundreds, £40, indeed, having been received on the day previous to the Show (the 11th inst.), and £40 more on the day of the Show alone. Of course every facility has been given to induce membership, and the utmost liberality consistent with sound commercial principles has been exercised in the granting of privileges. The object, a wise one, is to place the Society on a sound basis financially, by seeking such an income from subscriptions that will render the Society independent of gate money—that is, that its existence shall not be at the mercy of that ever-impending contingency, a rainy day.

The response to the efforts made to secure support warranted the Committee in announcing three shows for the present year, offering prizes to the amount of nearly £600. The spring show in March was a gratifying success, the summer show in July is admitted to have been the greatest and the best ever held in Durham or Northumberland, and the autumn show held on the 12th and 13th inst. was an excellent one, such as to satisfy the promoters and to secure the approval and confidence of the public. As an instance of the extent of the public support accorded it may be mentioned that the Society has enrolled 170 Vice-Presidents, including eleven Mayors, and it has the

distinguished patronage of the whole of the aristocracy of the district.

The Exhibition was held in the Corn Market and in the Town Hall above it, two fine and well-lighted rooms, each about 250 feet long by 50 feet wide. The rooms were attractively decorated, and the tables for the fruit and flowers were covered with smooth white paper, which had a very clean and finished appearance, very different to the rough deal boards at Carlisle, which marred the effect of that great show. The plants and florists' flowers were arranged in the Corn Market, and the table decorations, bouquets, epergnes, &c., also the fruit, were displayed in the room above, and the effect produced was excellent. The following summary of the exhibits affords an idea of the extent of the Exhibition:—470 plants, 350 Dahlias, 324 Hollyhocks (blooms and spikes), 168 Gladioluses, 1294 cut blooms exclusive of the above, 4 decorated dinner tables, 60 epergnes and bouquets, &c., and 276 dishes of fruit. Owing to the comparatively limited space the plant classes were not numerous, and on the same account nurserymen's miscellaneous exhibitions could not be admitted. The specimen plants in flower were excellent considering the period of the year. The cut flowers were extensive and superior, the finest display of the kind we have seen this season; and the fruit was in considerable quantity, much of it being of capital quality. It is only necessary to notice a few of the leading collections and chief prizewinners.

PLANTS.—These were arranged on the floor of the Hall. The patrons' prize of £10 for six specimen plants in bloom was won by Mr. Tudgey, gardener to T. E. G. Williams, Esq., Henwick Grange, Worcester, with *Ixora Williamsii*, 4 feet in diameter and in excellent health and bloom; *Clerodendron Balfourianum*, still larger; *Erica Eweriana* *superba*, a splendid example, 5 feet in diameter and very fresh; *Allamanda nobilis*, very fine; *Anthurium Scherzerianum*, $\frac{1}{2}$ feet across, with thirty spathes; and *Ixora Dixiana*. These plants fully merited the premier position on account of their freshness and uniform good quality. Mr. Thos. A. Wilson, The Gardens, Normanby Hall, Middlesborough, had the second prize with a collection more unequal in size, some of the plants being very large, others comparatively small. The *Stephanotis* in this group was splendid; *Dipladenia Brearleyana* had thirty fine flowers, and *Erica orbata* *purpurea* was very good. Mr. Tudgey had the third prize, the rules of the Society permitting an exhibitor to take more than one prize in a class—a plan which is no longer necessary to ensure an exhibition at Newcastle. In the class for three plants in bloom Mr. Moulton, gardener to the Earl of Ravensworth, Ravensworth Castle, won with *Ixora javanica*, *Cassia corymbosa*, and *Erica retorta* *major*. The last-named specimen was the premier plant of the Exhibition, a grand example of culture 5 feet in diameter, and apparently faultless. Mr. J. Thompson, Ravenside, Fenham, had the remaining prizes, his noticeable plant being *Lapageria rosea*, 5 feet high by $3\frac{1}{2}$ feet in diameter, in admirable condition. Ornamental-foliaged plants, were not generally of such high excellence as the flowering specimens. Mr. Tudgey was the only exhibitor of six plants, and secured the Treasurer's prize with *Latania borbonica*, two *Cordylines*, two *Crotons*, and *Cycas revoluta*; and in the class for three plants Mr. A. Methven, Heathside, Gateshead, was first with a good *Croton variegatum*, a very fine *Cordylina indivisa*, and a healthy *Cycas revoluta*. Mr. J. Thompson was second with two *Crotons* and *Dieffenbachia gigantea*. Mr. Methven had the third prize. Ferns were not of remarkable excellence, although Mr. Tudgey exhibited creditable specimens, and won the first honours for six plants with *Gleichenias Mendeli* and *rupestris*, *Adiantum scutum* and *cuneatum*, *Gymnogramma Peruviana*, and *Pteris scaberula*. Messrs. Methven, Wilson, and Thompson also secured prizes. Some of the amateur exhibitors also staged fresh healthy medium-sized specimens, notably Mr. Henry Brooks, Shincliffe, and Mr. John Garrett, who were awarded the chief prizes in that section. In the classes for Heaths Mr. Moulton was unapproachable. His specimens of *E. tricolor* *Hoffordii*, *E. Austiniana*, and *E. Irbyana* were very fresh and well bloomed, and ensured him the principal prizes. In the amateurs' class Mr. Battensby exhibited a capital specimen of *Erica Marnockiana*; a plant so vigorous is not often seen of this variety. He also exhibited a very fine *Lapageria* and an excellent specimen of *Vallota purpurea* with thirty spikes—plants worthy of professionals, and which secured for the exhibitor the first prize for three specimens. Mr. W. J. Taylor's prize for three *Liliums* was won by Mr. Moulton with fairly good examples. Mr. Moulton had the first place also for *Coleuses* with compact and well-coloured plants. *Fuchsias* were not superior, and only one prize was awarded—namely, to Mr. E. Sandars. Table plants were not noteworthy, and *Cockscombs* were rather coarse.

CUT FLOWERS.—These were the great feature of the Show. The collections of Dahlias made a fine display, and almost astonished the Judge, Mr. C. Turner, by their numbers; several blooms were undoubtedly coarse, but the majority were of excellent quality.

Dahlias.—In the class for twenty-four blooms seventeen stands were exhibited. The county prize was won by Mr. W. Boston, Carthorpe, Bedale, with medium-sized, compact, well-finished examples of *Royalty*, Mr. Standish, *Royal Queen*, Mrs. Levington, Mr. Dix, *Julia Wyatt*, Mrs. Henshaw, Thomas Goodwin, Annie Neville, A. Crammond, Hebe, Lord Derby, Miss Turner, Ovid, *Yellow Boy*, James Cocker, *Criterion*, *Toison d'Or*, Dr. Moffatt, *Queen of Beauties*, *Flora Wyatt*, Mrs. Harris, *Cremorne*, and a white seedling of great merit. The second-prize collection of Mr. C. Ryland, Aughton, Holmskirk, consisted of larger blooms, some of which were of great excellence, while others were deficient in outline. Willie Eckford in this stand was exceedingly fine. The third prize stand of Mr. Henry Clark, Rodley, Leeds, also contained some very fine blooms, notably of Baron Taunton, Vice-President, and John Neville Keynes; and the extra third collection of Mr. Jackson, Kidderminster, well merited the approval of the Judge. Mr. Turner's fine new scarlet *Christopher Ridley* was well shown by Mr. Charles Ryland; and a grand bloom of the same variety, and bright and good examples of *Drake Lewis* and *Prince Arthur*, were staged by Mr. Charles Backhouse. Mr. Fletcher, nurseryman, Charlestown, Baildown, Leeds, won in the class for twelve blooms with John Bennett, Charles Leicester, Mrs. Harris, Vice-President, Lady Gladys Herbert, *Royal Queen*, John N. Keynes, James Cocker, Mr. Stanscomb, *Flora Wyatt*, Henry Walton, and Hon. Sydney Herbert. The second and third prizes went to Mr. G. H. Fewkes, Tyburn, Erdington, Birmingham. Mr. William Shaw, Blackbrook, Kidderminster, secured first honours in the class for twelve fancy Dahlias with *Prospero*, *Harlequin*, Miss Ann, *Flora Wyatt*, Rev. J. B. M. Camm, Annie, Miss Large, Fanny Start, Lord Hawke, *Octoroon*, Mrs. Saunders, and Mrs. Bennet—an excellent stand. Mr. Ryland had the second prize, and Messrs. Painter & Boston equal thirds—a capital class. In the amateurs' classes for six blooms Mr. Fewkes and Mr. Wardle staged creditable stands, and were awarded the prizes in the order named.

Hollyhocks.—In the class for twenty-four varieties five very good stands were exhibited, the first prize going to Mr. John Stairman, The Public Park, Darlington, with very compact fresh blooms of *Sanspareil*, Miss Chater, *Autumn Queen*, *Imperial Jewel*, *Queen of Yellows*, Mrs. Clarke, *Venus*, *Octoroon*, *Walden Queen*, *Pink Perfection*, *Edward Speed*, and *Adonis*. Mr. J. Thompson and Mr. Geo. Hankin had the remaining prizes.

Asters were tolerably numerous, and the winning stands of Messrs. Fenwick, Wardle, and Gardner excellent, and the same remark applies to French *Marigolds*. It was a treat also to see the twelve stands of *Pansies*, which were extremely fine for the period of the year, especially those of Messrs. Wardle and Oliphant. Seven stands of cut *Zonal Pelargoniums* were also very effective.

Capital Gladioluses were shown by Mr. Fenwick, Mr. Jackson, and Mr. Spoor, jun., who won the chief prizes in the classes for twelve and six spikes, but most of the varieties were unnamed.

The *Carnations* and *Picotees* were simply marvellous by their size and high quality, especially considering the lateness of the season. There were five stands of twelve *Carnations* and six of *Picotees*, and nine stands of six blooms were staged. The flowers were not named, but they reflected great credit on the exhibitors—Messrs. Flowdy, Scott, and Harland.

Roses were exhibited by the executors of the late Mr. John Harrison, Caterick Bridge, Yorkshire. The *Hybrid Perpetuals* were good, but the *Teas* were particularly fine, especially *Marie Van Houtte*, *Madame Bravy*, *Souvenir de Paul Neyron*, *Souvenir d'Elise*, *Catherine Mermet*, *Climbing Devonensis*, and *Perle de Lyon*. They had been grown in the open air.

The class for "eighteen groups of cut flowers on stands, tubes to be elevated 4 inches above the stands," was an unsatisfactory one. The bunches exhibited were in some measure imposing, but there was nothing meritorious about them. They were mere "handfuls of flowers," pretty enough but indistinct—were, indeed, bad bouquets. The only collection of real merit was a stand exhibited by Mr. Tudgey, but as it did not comply with the conditions it could only be recognised by the Judges as an "extra." They, however, very properly honoured it and themselves by awarding an extra first. The prizes in this class were offered by Mr. Bowman, horticultural builder.

TABLE DECORATIONS.—Liberal prizes were provided in this class by the President of the Society, Major Woods, Holey Hall. Mr. Moulton won the chief prize of £7 with a very tastefully arranged table. Besides the three principal glasses which were filled with flowers (*Pancratiums*, *Anthuriums*, *Miltonias*, *Dipladenias*, &c.), *Feather-grass* and *Ferns*, there were two small plants of *Pandanus Veitchii*; also good fruit—*Pines*, *Grapes*, *Melons*, *Plums*, and *Cherries*—a light and elegant table, which merited its position. The second-prize table of Messrs. Gellender & Sons, Newcastle, had a centrepiece of cut flowers (*Lapagerias*, *Stanhopeas*, *Liliums*, and *Allamandas*), two plants of *Reidia glaucescens*, semicircular troughs of flowers, and good

fruit. The third-prize table of Mr. Methven was also chastely arranged, and contained some excellent dishes of fruit.

Epergnes and bouquets were numerous, but several of them were too highly coloured. Those to which the prizes were awarded were, however, excellent. The first-prize bouquet of Mr. Poskett had a central flower of *Eucharis* surrounded with *Stephanotis*, *Ericas*, and light sprays of *Ixora*, also small *Oncidiums*, and a veil of gauze Fern. It was medium-sized and well executed. Mrs. Cramont's second-prize bouquet was composed of *Eucharis*, *Pancratiums*, and *Stephanotis*, relieved by small sprays of blue *Browallias* and Fern. Prizes were offered for baskets of cut flowers, and the several examples in competition produced rather an imposing effect; but on the whole the arrangements were too formal, and the flowers too much crowded.

FRUIT.—When the schedule was originally prepared fruit received but little consideration, and the prizes offered were quite inadequate to command good entries. An additional sum of upwards of £30 was subsequently added to the fruit classes, and a somewhat limited but very good display resulted. Mr. Westcott, Raby Castle, was awarded first honours in the class for eight dishes (*Pines* excluded) for an excellent collection containing remarkably good Black *Hamburg* Grapes and very good Golden *Champions*, also *Waltham Cross*; *Melons*, *Plums*, *Pitmaston Orange* *Nectarines*, *Barrington Peaches*, *Figs*, and *Apricots*. Mr. Jowsey, Sedbury Park, Richmond, secured the second prize, and Mr. Errington of Unsworth Hall the third for highly creditable collections. In the class for six dishes the prizewinners were Mr. Shaw, Blakebrook, Kidderminster, Mr. Westcott, and Mr. Wass in the order named, who all staged good collections. A few very good *Pine Apples* were exhibited, the prizes going to Mr. Brown and to Mr. Westcott. But a much better class was that for two bunches of black Grapes, the prizes being offered by Mr. Kinnear, Radcliffe House, which attracted thirteen competitors. The Judge (Mr. Rivers, Sawbridgworth) awarded the first prize to Mr. Witherspoon, Chester-le-Street, for medium-sized but handsome and well-coloured bunches of Black *Alicante*; the berries were very fine and regular, and the more creditable to the exhibitor (an amateur) as being the first Grapes he has grown. Mr. Westcott had the second prize with Black *Hamburgs* of great merit; if these had been placed equal first no injustice would have been done. Mr. Jowsey had the third prize. Mr. Westcott won the chief prize for white Grapes, followed by Mr. Bradley, gardener to T. S. Turnbull, Esq., High Barnes, Sunderland; and Mr. Stocksley, Elswick Park, for very good produce; and for the heaviest bunch Mr. Jowsey won with a well-shaped bunch of *Gros Guillaume*, weighing about 7 lbs. Fifteen *Melons* were staged, medium-sized good dessert fruit. Mr. Starrie, gardener to J. Noble, Esq., had the first prize. A few dishes of very good *Peaches* were exhibited, but owing to the dull weather some of the fruit was deficient in colour. Mr. Shields, gardener to Col. Reed, Newbiggen House, Kenton, had the first prize with a capital dish. *Nectarines* were small, as also were *Pears*. *Apples* were limited, but a few very fine dishes were staged by Messrs. Shaw, Brown, and Rylance. *Plums* were poor. *Cucumbers* large—too large, and unnamed. Mr. Rivers sent a collection of fruit in twelve varieties of *Pears*, *Apples*, *Peaches*, and *Nectarines*, many of them being new, and contributed much to the completeness and interest of this section of the Show. It is evident that good fruit is grown in the north, and liberal prizes only are necessary to ensure a fine show of it at Newcastle. Only a few vegetables were exhibited, but these were good; and Mr. Turner's Schoolmaster *Potato* was much admired. Many exhibits were not named, which always detracts from the interest and even from the usefulness of a Show.

The mode of affixing the prizes merits notice, as being the fairest, simplest, and best that has come under our notice. Every exhibit has a card attached containing the name and address of the exhibitor, together with the number of the class and description of the exhibit. This card is placed in an envelope and on which is the class number. After the awards are made, not before, the envelope is opened and the award of first, second, or third prize is pasted on—not anywhere, be it observed, covering important portions of the cards as at Carlisle, but in a space left blank for the purpose. Nothing can be neater, better, nor more expeditious.

The Show was a great success. Visitors crowded the Hall in such numbers and with such enthusiasm as are seldom seen. Newcastle is the centre of a population within a radius of ten miles of a million and a half. It has also excellent railway facilities. It contains men of horticultural skill and great administrative ability, and, moreover, whose nature to give a hearty, a courteous, a hospitable welcome to all comers aiding in the exhibitions which they have established so well. Newcastle can hardly fail to become an important horticultural centre, and great shows are certain to be provided so long as the same able and willing workers devote their energies to the work in which they are now engaged. We are glad to have visited this Show, and to have noted the extraordinary zeal of its chief officials,

and the none less useful if more obscure aid given by Mrs. W. J. Taylor.

SHANKING OF GRAPES.

"INQUIRER" raises a very important question when he asks "Why outdoor Grapes do not shank?" and as I think I can "read between the lines" that he wants to know why indoor Grapes do shank, I will put the two questions together and say, "What is the cause of shanking, and how can it be prevented or checked?"

First of all let us consider what is shanking. It is the small stalk which connects the berry with the bunch ceasing to convey nutriment to the berry, and consequently the berry comes to a standstill and the stalk withers. It generally takes place just when the fruit begins to colour, and the shanked berries remain red or green and sour. It will be found to occur most on Vines which have been grown in very rich borders with their roots unchecked during the first few years of their existence. The roots of Vines so grown do not ramify and make numerous feeders as those do which are grown in little else than loam. The less manure, so long as the soil is sufficiently fertile to promote good growth, the better will be the constitution of the Vine. It will have harder and more perfect wood, and also more numerous though not such gross feeders. The roots of Vines planted in richly prepared borders often dart straight through them without ramifying scarcely at all; not, perhaps, because there are not the necessary ingredients in the border for their sustenance, but because their wants are so easily supplied without, as it were, any effort on their part, and then, like people who are not early taught to cater for themselves, they do not find out the way till it is too late. As the roots, so the branches. If the former are gross the latter will correspond to them, and have a large amount of pith, long joints, and drawn-out cells. Very probably there are about the same number of cells whether the joints are near together or far apart, and a similar amount of solid material is built up in each case.

Shanking is very prevalent on Vines which are not allowed to carry sufficient foliage in comparison with the fruit they bear; in fact it can be produced on any Vine however healthy in two or three years if it is pinched-in too hard, or if a large portion of its leaves are removed just before the fruit ripens under the pretext of admitting light to the fruit, or because the leaves are required for garnishing. I guard very jealously all the Vine leaves on fruiting plants which can be exposed to the light till the fruit is perfectly matured. I would rather have the fruit taken than that the Vines should be partially denuded, and therefore leaves for garnishing are grown elsewhere.

Shanking is often caused, too, by an insufficiency of water. What I consider a sufficiency may be gleaned from the fact that four *Muscats* Vines, which now fill a compartment 80 feet by 30 feet of our large vinery, have been watered twelve times since the beginning of March, each Vine receiving about 300 gallons each time, although the area of the space containing their roots is only about 15 feet by 8 for each Vine.

Besides what I have pointed out there is no doubt that "INQUIRER" is right in thinking that high night temperatures have a good deal to do with shanking, and it may interest him, if he is not already acquainted with the fact, to know that I never aim at a higher night temperature than 55° for Vines, including *Muscats*, till the flowers are set, and further that *Muscats* always do set under such treatment as thickly as *Hamburgs*; they are, in fact, generally set and start swelling perceptibly before the cap falls off which covers the stamens.

There are several reasons for recommending a comparatively low temperature for the development of the flowers, but the principal are because the roots never start, and consequently cannot take up food, till some of the leaves are grown to their full size; therefore, if you force, all is coming out and nothing going in. Bottom heat makes no difference in this respect; you cannot start the root first if the Vine is healthy. And again, flower stalks if not grown sturdily at first will be very likely to break down when they become fruit stalks.

I had almost forgotten to note that outdoor Vines receive their greatest amount of water during winter, the soil in which they are growing never even approaching dryness at that time; neither does it in the houses of which I have charge. Watering Vine borders is a very frequent employment for wet weather during winter. The summer watering also does not stop when the fruit begins to ripen, as so many people recommend, but goes on rather increasingly towards the autumn

till the foliage falls, and then if the fruit is still hanging on the Vines it has to be done rather more carefully, choosing dry days for the operation, and afterwards sprinkling dry soil over the borders.

But "what about cracking?" Well, cracking is generally the result of insufficient watering at a certain stage; the berry gets hidebound, and then when water is applied the berry swells, while the skin having lost its elasticity cracks. Too much growth of foliage at the ripening stage will sometimes cause cracking; but, on the other hand, growth of foliage prevents shanking and helps colouring, therefore it must be dealt with very cautiously.

In conclusion, I have to say that shanking is not a disease; it can be produced at will by overcropping, defoliating, hard forcing in the first stages of growth, or semi-starvation; and that it is not incurable, although at times the remedy would be too costly, as it would take a considerable amount of time.—WILLIAM TAYLOR.

BRIGHTON AUTUMN SHOW.

SEPTEMBER 12TH AND 13TH.

WITH the exception of just one or two of the very great summer shows held in London, the Brighton Autumn Exhibition may be truly said to be equal in every respect to the rest of our London shows. It occupies a very high position as a provincial Show, and situated as it is in one of the most fashionable as well as one of the wealthiest of seaside towns, we were not surprised to see the numerous exhibits and the excellence of the productions exhibited. The schedule was both large and comprehensive, and both the inhabitants and county residents exhibit and respond with a spirit worthy of such a town. This Show was held in the Royal Pavilion, which is an admirable place for such a scene; and the brilliant company, the rank and fashion, shows that horticulture here must be advancing and going hand-in-hand with other sciences and institutions.

In the large tent were staged the specimen stove and greenhouse plants, Geraniums, Fuchsias, &c., and several of the spacious rooms of the Pavilion were filled with massive specimens of fine-foliage plants and Ferns, while other rooms were devoted to fruit and cut blooms of Roses. These two latter were represented most abundantly. The Committee and Managers of this most excellent Show will pardon us, we know, if we suggest that in future they should vary their productions and arrange them so that the fine-foliage and graceful Ferns should relieve and soften the glaring colours of the flowering plants, more especially the scarlet Geraniums, of which these occupied the whole length of one side of the centre stage without a break. Fancy a double row of Zonal Pelargoniums covering a space about 150 feet by 10 or 12 without an interruption of any kind, while in the dark rooms the fine-foliage and Ferns were placed alone.

Stove and greenhouse flowering plants were well shown considering the lateness of the season, and in the class for eight Messrs. Balchin & Nell, Western Road, Brighton, were a good first with *Allamandea paraxensis* and *Hendersonii*, *Ixora amblyonensis*, *Stephanotis floribunda*, *Ericas* retorta major and *Austiniana*, *Dipladenia Brearleyana*, and *Dracophyllum gracile*. All with the exception of the last named were exceedingly well bloomed. Mr. Meacham, gardener to C. Armstrong, Esq., Withdean, second; and in the corresponding class for four, Mr. Child, gardener to Mrs. Torr, Ewell, was first with splendid plants of *Bougainvillea glabra*, *Erica Austiniana*, *Allamanda Hendersonii*, and *Vinca oculata*; Messrs. Golding & Co. second; and Messrs. Miles and Verrall equal thirds. Other classes were set apart for stove and greenhouse plants open to the county only, in which several of the above obtained awards.

The principal prize of the day was one given by the Directors of the Brighton and South Coast Railway, a ten-guinea cup, for ten variegated or fine-foliaged plants, which brought together three collections. The first was gained by Messrs. Balchin and Nell for massive plants of *Croton angustifolium*, *pictum*, *variegatum*, and *Johannis*, *Phormium tenax variegatum*, *Cycas revoluta*, *Areca sapida*, *Encephalartos villosus*, *Pandanus Veitchii*, and *Phoenixophorium seychellarum*. Mr. Miles of the West Brighton Nurseries was placed second with plants somewhat smaller, but a very fresh and even collection, having grand examples of *Alocasia macrorrhiza variegata*, *Cycas revoluta*, *Euterpe edulis*, *Croton pictum*, *variegatum*, *interruptum*, and *angustifolium*, *Alocasia Lowii*, *Maranta zebrina*, and *Dracæna Shepherdii*. Mr. Meacham was placed third with much smaller plants, but they were good.

In the class for eight exotic Ferns Mr. Miles was awarded the first prize for grand examples of *Davallia Mooreana*, *Adiantum concinnum latum*, *farleyense*, and *trapeziforme*; *Cyathea arborea*, *medullaris*, and *dealbata*, the whole occupying a space of not less than 40 feet, completely covering one end of the spacious room. Mr. Child was placed second for good plants of *Todea superba*, *Gleichenias diacarpa* and *Mendeli*, *Adiantums*

tenerum and *farleyense*, *Davallia Mooreana*, *Dicksonia antarctica*, and *Cyathea dealbata*. Messrs. Balchin & Nell third with larger specimens still. The first prize single foliaged-plant was awarded to Mr. Miles for *Encephalartos villosus*; and for single flowering-plants Mr. Rutland, gardener to the Duke of Richmond, was placed first.

Zonal Geraniums, as we above intimated, were extensively shown, several classes being provided for them, and the distinction was zonal, not scarlet and zonal scarlet. Mr. Miles was here very successful, winning the two first prizes, while Messrs. Balchin & Nell were placed second in both cases. Other successful exhibitors in these and other zonal classes were Mr. Meacham, Mr. Howick, Mr. Townshend, and Mr. Wickham, the whole of them showing well grown examples of about 4 to 5 feet through, globular in shape, and free from any hard training. Perhaps the individual trusses were not so large as is to be met with about London, but they were in greater profusion. The best double Geraniums we have ever seen came from Balchin & Nell, who were the only exhibitors, but worthily deserved the first prize awarded to them. The varieties shown were *Jacoba*, *Sceptre Lorraine*, *Madame Lemoine*, and *Madame Schmidt*. Tricolors were on the whole small, and *Fuchsias* were very poorly represented both in quality and quantity—the worst we have seen for many a day. *Dahlias* were most numerous and exceedingly fine, Mr. W. Seale, nurseryman, Sevenoaks, being the principal prizetaker. *Asters*, *Gladioli*, and *Verbenas* were also very good, and the collection of twenty-four varieties of cut flowers set up by Messrs. Balchin & Nell was a masterpiece of arrangement; Mr. Morse, Epsom, was placed second with a very good collection.

Dinner-table decorations were also very good, and showed considerable taste in arrangement—the first-prize stands exceedingly light and graceful. Mr. Seale first; Mr. Downing, Crawley, second; and Mr. Miles third, all exhibiting well.

Thirty classes were set apart for fruit, which was both shown numerously and particularly good. Mr. Rutland was placed first for a collection of ten dishes, containing very large and well-formed bunches of Mrs. Pince's Muscat, but not quite ripe, very fine; Royal George Peaches, Morello Cherries, Golden Perfection Melon, Black Ischia Figs, Smooth Cayenne Pine, Pittamston Orange and Stanwick Nectarines, and Muscat of Alexandria Grapes. Our space will not allow us to particularise the many other exhibitors who deserved the prizes awarded to them, but mention should be made of a grand dish of Red Astrachan Apple shown by Mr. Worsfield, gardener to Lady Dickens, Horsham, and a very fine bank of decorative plants set up by Mr. Miles, occupying a space of not less than 80 feet by 20; this collection contained all that was new and useful in the way of Ferns, Crotons, Palms, and other plants used for decorative purposes.

ROSES.—We have left these for last, not that they were the least showy subjects in the Show, nor that they were not fairly represented, for they were shown most numerously, and from the numerous visitors that clung around them we had a difficulty in gaining the names of the principal prizewinners. Messrs. Mitchell & Sons, Piltown Nursery, Uckfield, took the first prize for forty-eight varieties in threes, Mr. W. Seale second, and Messrs. Virgo & Sons third. Mrs. Woolard, Mr. Piper, the Rev. C. Hales, Mr. Gravelly, Mr. Davis, and Mr. Marsh were all prizetakers. A box of twelve varieties of Tea or Noisette from Messrs. Mitchell & Sons were almost as good as those they took the first prize with at the Crystal Palace this season, and amongst them were Belle Lyonnaise, Devonienne, Perle de Lyon, Marie Van Houtte, Catherine Mermet, Adam, Madame Margottin, Souvenir d'un Ami, Elise Vardon, and Souvenir de Paul Neyron. All the Roses shown were very good for so late in the season, and from the extensive quantity exhibited it must be inferred that it has been a good season for autumnal Roses. We have other notes of Brighton horticultural doings which we must defer until our next.—J. W. MOORMAN.

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

HARDY FRUIT GARDEN.

ALLUSION was made two weeks ago to the gathering of Apples and Pears. It will only be necessary to say now that the work must be proceeded with as fast as the fruit ripens, but it is not well to do this until it is quite ripe. Many persons have not patience to wait, especially when they see the fruit being daily shaken down by the wind; but if the fruit that falls is examined it will be seen that much of it has been attacked by the Apple maggot. Wall trees require to be looked over in order to secure the loose branches to the walls and also any young growths recently formed. Peaches and Nectarines ripening must be exposed to the sun. Many of the fruits are shaded by the leaves, and these must be removed either by picking them off or laying them aside. Vines on the walls will require similar attention to other trees; and, quite independently of the fruit that is pro-

duced, well-trained Vines look remarkably well on any wall, or trained to out-houses or the gable end of a dwelling-house. The bunches of the white varieties should be exposed to the sun when the berries become soft to the touch. In our neighbourhood they do not as yet show signs of being ripe early, but if the weather is fine for two or three weeks longer Royal Muscadine on a favourable position will ripen fairly. The small Black Cluster is also a useful Grape. These fruits are not much grown in aristocratic gardens where Black Hamburgh is grown under glass; but those who are not so fortunate as to own any glass structure can appreciate the Royal Muscadine from an open wall in favoured districts in the south of England. The lateral growths should be pinched off, and the young wood should be fully exposed to the sun. During mild dry weather about the end of September or in October red spider and other insect pests make much progress on the trees if they are not checked. As soon as the fruit is gathered from any of the trees the garden engine may be brought into requisition, and the trees be thoroughly syringed with clear water. If the trees are thoroughly cleansed from insect pests in the autumn they will not be likely to be attacked in the following spring or early summer.

There is usually a border in front of the walls, and this must be kept free from weeds and be raked occasionally. The crops that can be grown on such borders are Lettuce, Endive, and other small salads. If it is necessary to plant them with early Peas, Potatoes, or Beans, these crops ought not to be nearer the wall than 3 feet.

CUCUMBERS AND MELONS.

Preparation must now be made to plant out the Cucumbers for winter bearing. It is not well to delay this too long, else the plants do not become well established before the dull dark days of November. The trellis ought to be well covered before the first week in November, and the plants must not be allowed to bear too much after that date, else speedy exhaustion will follow. Before planting-out see that the house is thoroughly cleansed by washing the glass and woodwork; the hot-water pipes should be painted, and the walls washed and be afterwards painted over with lime water. If there are any plants in the house infested with insect pests, such as red spider, thrips, or mealy bug, they must either be cleaned or removed. If the Cucumber plants are quite free from any of them when they are put out probably they will not be attacked in the winter if proper precautions are used. It is not desirable to make a large border for the roots, a space for the soil about 2 feet wide and from 9 inches to a foot deep is amply sufficient; the roots work near the surface more in a shallow border, and they can be encouraged by frequent dressings with rich soil. In the Cucumber house at Loxford the beds are much wider than is necessary, and our plan is to build a wall down the centre of the bed with bricks, not using any mortar. On one side of this wall is the compost for the plants, on the other some fermenting manure. This bed of manure answers two purposes—it excites by its warmth to immediate root-action the newly-planted Cucumber plants, and the bottom heat is very useful for propagating purposes; moreover, insects do not like the moisture from stable manure in a fresh state.

Melons on which the fruit is ripening should have a rather dry atmosphere, the house should be freely aired, and the temperature at night to range between 60° and 65°. When the fruit is not in such an advanced stage as this the usual precautions must be taken to keep the leaves free from the attacks of red spider. Too much syringing is apt to injure the plants by causing them to rot off at the neck. It is best to syringe thoroughly during the mornings of fine days; 65° at night with a rise of about 10° by day is a very suitable temperature.

GREENHOUSE AND CONSERVATORY.

Where there are large houses and pits devoted to the culture of greenhouse plants there is plenty to do all through the season. At present the winter-flowering plants demand attention. Before this appears in print a batch of Hyacinth and Tulip roots will probably be potted for early flowering. We pot one root in the centre of a 5-inch pot, or three small roots in a 6-inch. When potted the pots are placed on a hard bottom of ashes, and are then covered over with cocoa-nut fibre refuse. Cyclamens have also just been potted. Those in 7 and 8-inch pots were turned-out of the pots, the balls of earth considerably reduced, and the plants were again potted into similar pots from which they had been turned out. *Primula cortusoides amœna*, and varieties white and lilac, have also been repotted. Before doing so the plants were separated, each clump being broken into four or five pieces, and when potted in fresh pots fresh compost was worked-in between them. The Cape and New Holland plants potted a few weeks ago have taken kindly to the fresh compost and are making fresh roots abundantly. The house was kept rather close for a few days, but we now ventilate freely, leaving the ventilators open at night as well as in the day. Some of the plants require to be staked-out, but this is work that can stand over for a time, and it is just as well to leave such work if possible for rough weather later in the

year. It is best to use sticks made of good deal for hardwooded plants, and strong black linen thread to tie with. The sticks should be painted of a green colour. Most of the buds on Chrysanthemums are now set and swelling freely. The late-flowering sorts, such as Princess of Wales, Princess Teck, Her Majesty, Lady Slade, Venus, &c., should be set the last week in August, or at least in the very earliest days of September, the early-flowering sorts a week or ten days later. Now is the time to look out for mildew, not only on Chrysanthemums but many other greenhouse plants, including Cinerarias, also Heaths and many other similar plants. Sulphur thrown as a cloud of dust on the leaves will soon destroy it in its earliest stages.

FLORIST FLOWERS.

In writing two or three weeks ago on Auriculas it was stated that a certain variety was "dorty," a phrase much used in Scotland, but the printer made it out "dirty," which is a blunder. Auriculas are now making their autumn growth, but many of the plants are also showing trusses of bloom. We do not find that these interfere much with the spring bloom, if they are picked off as soon as possible a new heart is formed in the course of a few weeks; the plants require picking over again to remove the decaying leaves and weeds. The plants are still under the shelter of a north wall in frames, and the lights are removed as often as weather permits. We never allow the leaves to be exposed to rain; as they are sheltered by the wall high winds do not injure them.

Pinks.—The earliest-struck pipings of these have been planted out in the beds where they are intended to bloom. It is usual to plant them in October, but we would rather plant about the middle of September, when the plants have been duly hardened off. The treatment so far is this—about the end of June or early in July the pipings are put into boxes, and they strike out roots in about two weeks, aided by a little bottom heat. When it is seen that the plants are rooted air freely, removing the lights altogether in calm weather. After a while, say from the beginning to the middle of August, remove the boxes to an exposed position out of doors, and then plant out the young plants 3 inches apart in a bed of light soil. In a month after being planted out they are ready for removing to the beds where they will flower. Plant in light rich soil 9 inches apart, or less if space is limited. We have just finished potting-off the Carnations and Picotees. We pot a pair in a small pot except scarce and choice varieties, these are placed one in a pot. It would be as well to pot the plants singly, but then it requires a double quantity of pots, and we cannot spare frames for so many. The only pest to us is the wireworm, and as it works like the mole under ground it is very difficult to catch it until the plant is destroyed. We pick the soil over carefully two or three times before potting, as a wireworm in a pot is sure to destroy at least one of the plants, probably both. The potting material is of the simplest description—loam four parts, leaf mould one part, rotted manure one part, and some sand to keep the compost open.

Pansies.—Cuttings of these were put in a few days ago and they have struck roots freely. The young plants are speedily attacked by green fly and mildew under glass. It is best to turn them out of doors as soon as they are rooted. We have also pricked-out a number of seedling Pansies, intending to plant a bed of them about the end of October.

Dahlias and *Hollyhocks* require attention. All flowers that have begun to decay should be at once removed. The shoots should be tied to the sticks to prevent their being broken by the high winds prevalent at this season. See that the ground is kept free from weeds and the plants from decaying leaves.—J. DOUGLAS.

DEATH OF PROFESSOR PARLATORE.—It is with much regret that we have to announce the death of Filippo Parlatore, Professor of Botany at Florence, of which we received an intimation as we were going to press. Professor Parlatore died full of honours on the 9th of this month at the age of sixty-one. The list of honorary distinctions which accompany the announcement of his death occupy nearly a whole page of a quarto sheet.

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

FUCHSIAS (*Mr. Boyle*).—*Fuchsias virgata* and *gracilis* are not identical. The window plant you describe is probably *Richardia* *æthiopica*.

VINES IN POTS (*S. N.*).—You may grow them for one year, and then turn them out into the border. The spray you enclosed is *Pyrus Aria*, the White Beam Tree.

TREES FOR SEASHORE (H. Horton).—Evergreen Oak, *Pinus insignis*, P. Lario, with Sycamore and Turkey Oak, are what we advise of trees; and of shrubs Tamarisk, Alaternus, Brooms, double Gorse, Eucalyptus, Escallonia macrantha, Hollies, Elders, Sea Buckthorn, and Gaudier Rose.

ROSE (H. E. Holdaway).—The specimen was a mass of dead leaves attached to a dried and withered stalk. It ought to have been sent in a box wrapped in damp moss. The naming must be a matter of conjecture. It may be Jean Cherpin, and we think it is.

BEECH NUTS AND ACORNS.—“W. L.” writes that the Beech nuts are very abundant near Bromsgrove, but that acorns are very scarce. He asks if Beech nuts are plentiful in other parts of England.

CINERARIA LEAF DISEASED (R. K. Penson).—It is mildewed, and the cause is too much moisture and too little ventilation.

WATSON'S LAWN SAND (C. M.).—Not having tried it we cannot give an opinion.

TURF FOR VINE BORDERS (Nemo).—The best material for Vine borders when turf cannot be obtained, is to take as good soil as you can get, to eight barrowloads of it add one of lime rubbish, one of rotted manure, a peck of charcoal, and the same quantity of inch bones, turn it over twice, and use it at once.

NEW ZEALAND FLAX FROM SEED (J. S. W.).—You may sow the seeds now in light soil, place the pots in heat, and do not give much water—just sufficient to keep the soil moist. The seeds take a good while to germinate, but those sent are good. When the young plants have grown a little prick them off, about nine in a 6-inch pot.

ARAUCARIA SEEDLESS (J. R. W.).—You are correctly informed. This tree is dioecious.

GLASS-COVERED WALL FOR PEACH TREE (R. R.).—As you have provided a coping would it not be as well to wait until your trees are old enough to bear, and see whether you cannot obtain a crop without any glass protection? Should you determine to have glass, we advise a simple lean-to, with ventilation provided at the top by moveable lights to lift up by an iron rod. The front ventilation should be provided by shutters to open outwards under a plate on which the base of the rafters should rest. The shutters may be about 12 inches wide. You say the trees are against the north wall; we presume, of course, that the wall faces south.

HYDRANGEAS IMPERFECTLY DEVELOPED (H. C. P.).—We cannot account for this in any way, if the plants are healthy and growing strongly, except that it may be owing to the unfavourable weather we have experienced. The plants like generous treatment, and when the flower-trusses are forming to be exposed to light and air.

VINES NOT STARTING INTO GROWTH (J. A.).—We do not quite understand what you mean by saying “the Vines made several attempts to break but failed.” How were the attempts made? If they have not made any growth during the season they must be pronounced to be dead, and others should be planted in their place.

POT CULTURE OF LILIUM AURATUM (Ightham).—We agree with Mr. Wood in thinking the present time of year the best for repotting, but we do not attribute his success solely to doing so, and have no doubt that you may obtain equally satisfactory results if your bulbs are as large as his; size of bulb has much influence in the matter. Shake out the three bulbs which you have in a 10-inch pot and repot them singly in 8-inch pots, placing the tops of the bulbs quite 2 inches below the surface. Plunge the pots in coal ashes in the open air, and when the leaves of the next season's growth appear give plenty of sewage or other liquid manure.

STEPHANOTIS FLORIBUNDA FRUITING (A Constant Reader).—Old plants of Stephanotis occasionally bear fruit, but it is unusual for fruit to be borne annually, or with any periodical regularity, upon the same plant.

LEAKY GREENHOUSE ROOF (Ten-years Subscriber).—Scrape away the old putty from the faulty places, cleanse well with a dusting brush, give one coat of paint, then stop thoroughly with putty and follow with three more coats of paint. A leaky roof is a sure indication of neglect. Why does your putty perish so soon? Simply because you have not applied the annual coat of paint which the woodwork and putty of every glazed structure should have.

FIGS (E. F.).—You may plant against your west wall the Brown Turkey and the Brunswick.

WITLOOF (R. G.).—The leaves are eaten as Seekale and uncooked as a salad. There are full particulars and a drawing of the plant in the number of this Journal published January 27th of last year.

ANALYSES OF FLOWERS (G. N. T.).—There are many published in Dr. Thomson's “Organic Chemistry—Vegetables.”

NAMES OF FRUITS (Elm).—1, Magnum Bonum; 2, Victoria; 3, Fotheringham; 4, Lucombe's Nonsuch; 5, Winesour; 6, Orleans.

NAMES OF PLANTS (C. T.).—2, Eucalyptus europæus; 3, Cornus sanguinea; 4, Acer campestre; 5, Polemonium caruleum variegatum. (W. W.).—Inula helenium. The root is tonic. There is no mode of destroying it but by spudding it out, or paring and burning the top spit of the field. (J. C. O.).—It is the Grass of Parnassus, Parnassia palustris. (A. H. S.).—1, Cattleya, probably C. Loddigesii; 2, Lycaste macrophylla. (Mrs. St. John).—Eupatorium Wendlandianum. (Mac.).—Potentilla fruticosa. (H. Dunning).—Specimens unsatisfactory. 1, Onoclea sensibilis; 2, Pteris (?) cretica; 3 and 4, Adiantum sp. (G. Chisholm).—Probably a Cistus, but specimen insufficient. (M. P. Horsham).—1, Solidago lanceolata; 2, Hibiscus syriacus; 3, Clethra arborea. (W. D. H.).—Euphrasia (Bartsia) odontites.

POULTRY, BEE, AND PIGEON CHRONICLE.

THE ISLINGTON AND ALEXANDRA PALACE SCHEDULES.

BOTH these schedules are to hand, and on both we have some few remarks to make. We extremely regret that the three A's—Aquarium, Alexandra, Agricultural Hall—have not in their own interests arranged their dates better. With the Sydenham meeting in prospect the London shows will surely suffer; and we verily believe, had any one of them lowered their entry fee

to 6s. instead of 7s. 6d., that the one so doing would have been the successful meeting. In bygone days when the great metropolis only had the Crystal Palace Show it was all very well to charge so high a rate of entry fees; but now that four of them have come into existence, and when there is even a prospect of a fifth, “Ichabod” may be cried over the prestige of winning in London, and the fees should surely be lessened in consequence if a number of entries is desired. In the face of these thickly coming shows we think Mr. Nicholls has been wise as well as the Islington Committee to have their classes for pairs of birds in most of the breeds. We know fully well that for chickens it is disadvantageous to show them in pairs, but we believe the outlay of money to form a double set of prizes for cockerels and pullets would not be recouped in a sufficiently satisfactory way to justify the expenditure in this time of glut of metropolitan shows.

We will speak of the Dairy Show first, as that is the first to come off. The prizes are liberal, £6 being divided in most classes in four prizes. In Dorkings, Silvers, Whites, and Cuckoos all have to compete together. Minorcas and Andalusians have a class together. Brahmas and Game have separate classes for the sexes, of which Brahmas have four and Game six. Poland has two classes, in one of which Whites, Chamois, &c., may appear. Hamburgs and Cochins have a good provision made for them. For the Variety class are left La Fliche, Sultans, Silkies, Cuckoo Cochins, Frizzles, &c. The Waterfowl are well cared for; besides the ordinary classes Cayugas, Pekins, East Indians, Mandarins, and Carolinas are all provided for. There are no Pigeon classes. The Selling divisions, however, will contain, we suppose, some good birds, for the entry fee is only 5s., and in each class £8 is given in prizes. The Bantam classification is odd; for as the classes read we should conclude Class 47 was for Black Game Bantams, whereas Black Rose-combs we suppose are intended to be entered here. All the other variety Bantams are jumbled up in Class 50. There are optional champion sweepstake prizes; medals are to be awarded for incubators, appliances, and poultry foods. There are also special prizes offered by the manufacturers of various foods for the best birds fed upon their compounds, which prizes will probably give the Judges much trouble and be of no real benefit to the poultry cause. Mr. F. Wilson, late of the Crystal Palace, is the Secretary, and Mr. R. R. Fowler is not this year to be the Steward we learn. We have only three more things to mention in connection with this schedule—the one that the cups and special prizes are to be given in addition to the money prizes, and that the birds exhibited will have to be away from home at least eight days, and in some cases probably more where the distance is great, which fact in the case of chickens of the year must surely lessen considerably the number of entries; and that the Judges are Messrs. Hewitt, Leno, Martin, Nicholls, Smith, and Teebay; but as the classes in which each gentleman will award the prizes are not named this piece of information could as well have been omitted for all the good it can do.

Among the rules and regulations of the Alexandra Palace we find one which tells us that only appeals from the Judges' decisions will be entertained when fraudulent practices have subsequently been discovered, in which case the prizes will be withheld. We read, too, that the prices of birds may be reduced on the second and third days of the Show; but a wise addition has been made to the ordinary words—viz., “Upon the production of the receipt for entry fees.” We are sorry, however, to see, that though the Judges' names are announced, their individual classes are not named. We see Mr. Mathews is down in conjunction with Messrs. Hewitt and Teebay for poultry; while Messrs. Esquilant, Heaton, and Tegetmeier take the Pigeons. The poultry have twenty cups and Pigeons twenty-one, varying in value from £10 10s. to £3 8s., some of which are presented and some subscribed for. Langshans have a cup and a class, the former given by the Club. Black Cuckoo and White Cochins have to compete together. We should have felt inclined to have made the classification larger and left out the £5 5s. sale classes, as there are now so many other opportunities of buying birds at a moderate price. Brahmas have classes for cockerels and pullets, two £5 5s. classes, twenty-four prizes and four cups, one of the value of £10 10s.; but we are certain the display of Darks has not of late been sufficiently good in quality or quantity to necessitate such a bountiful prize list. There are classes for Pile Game, Malays, three sorts of Polish, Silkies and Andalusians. There are nine £2 sale classes and four prizes in each class, and this department will probably be remunerative, though we doubt if the French require two of the divisions to themselves when Dorkings, Cochins, and Brahmas have only three between them. The Bantam classification is excellent, and the display should be good.

The Pigeons follow. Pouters, Carriers, Dragoons and Tumblers should come in swarms; all colours, varieties, and ages have rare chances of showing the quality of the fancy, while Jacobins, Owls and Turbits are handsomely seen to. We are glad to see separate classes for Fantail cocks and hens, and that Blacks and Blues have a class to themselves. Nuns, Trum-

peters, Magpies and Runts will all find a warm welcome in their own divisions. Two flying classes finish a capital schedule, one which is not as elaborate as some we have seen, but sufficiently well drawn up. We hope to enlist the hearty co-operation of all fanciers, and we have Mr. Nicholls's promise that every attention shall be paid to the speedy putting-up of the prize cards, so as to set an example to his somewhat tardy friends of other metropolitan shows. We earnestly hope the entries will be large, and that birds will be reserved to make a *début* at this and the Oxford Shows, whose dates most certainly are the most compatible with the welfare of young and growing stock. The entries close on new Michaelmas day, before which time we hope Mr. Nicholls will publish the separate work of each adjudicator among the various classes.—W.

GRANVILLE POULTRY SHOW.

THE first Ramsgate Show was held at the Granville Marina on Tuesday last and the following days. The entries were tolerably good, the names of a number of exhibitors from France and Belgium appearing in the prize list for the first time in England. The management, we regret to say, was not all that could be desired. Some of the pens were not up and a large number of the birds were in their baskets at the time the judging should have been almost completed. Many of the prize cards were not on the pens when we visited the Show at twelve o'clock on the second day.

Dorking cocks, coloured, only eight entries, and the pens not all full. Peel first, a fine old bird well on the feet and in fine condition. Second a little out of feather: this should, we think, have given way to Mr. Burnell's cockerel. Third a nice bird in good condition. Coloured hen, Burnell first and second with good birds. Silver-Gray.—The cocks with the exception of Mr. Burnell's were a poor lot. The second was fair in colour but small. Nearly all the rest had spurs growing in all directions. The hens were much better, and the competition rather close. *Cochins*.—Buff cocks moderate. First (Mrs. Tindall) a nice coloured chicken, but do not think he will ever make a great bird. Hens, first (Mrs. Tindall) a large hen, but not in condition for an exhibition pen. Second (Christy) a fine hen in lovely condition. Third large, but deficient in leg-feather. Any other colour cocks, first a White in beautiful condition and well shown, but for points we liked Mr. Darby's unnoticed pen better. Mrs. Tindall showed some very fine well-marked Partridge hens; had a cup been given for the best in the Show it must have fallen to the first-prize hen in this class. *Brahmas*.—Dark: First a good-coloured bird, well grown but vulturized. Second a good old bird, but will show to better advantage after his moult. Third and fourth good chickens; the former should perhaps have had a better position. The fifth award we did not like. Hens: The majority of the birds in this class were pullets, and with the exception of the second-prize, a grand hen well marked which we thought should have been first, we consider them a very even lot, and we doubt if any two judges would have made the same selections. Light: The winner a good bird, but so yellow that we think he should be out of the prize list. The second was a beautiful young chicken, and we should have liked to have seen him first. Hens: Nearly all young in this class and very equal in merits, and we think the Judge's selection correct. Cocks: Black Reds, a small class but good. Hens more numerous and equally good; the winner, a beautiful pullet, also obtained the cup. In the other *Game* classes the most noticeable was a fine Brown Red cock of wonderful style shown by Mr. Matthews. *Hamburghs*.—Many of the best birds were out of condition. *Spanish*.—Cocks: Some forward young birds were shown in this class, but they had no other merit. Hens: Mr. Jones's unnoticed pen 280 we thought far the best bird in the class. The three first-prize birds were exceedingly coarse. The fourth had a very small face and no lob. *Houdans*.—Both classes were large. In the cocks the first and fifth prizes went to France, and of the hens the fourth. *Crêpes*.—Capital classes, in quality better than the Houdans, our continental friends again coming in for a good share of the honours. *Polands*.—With one or two exceptions poor. *Leghorns*.—A nice class. *Game Bantams*.—Mr. Entwistle here exhibited a few good pens of *Game*. Mr. Morgan's cockerel in the second-prize pen we also liked.

The *Pigeons* were a very good collection, numbering nearly four hundred entries. The cup went to a Black cock, very long in neck and standing well on the legs, but hardly so heavy in eye and beak-wattle as others in the class, still he is a grand bird and well deserved his position. Of late there has been a tendency amongst some judges to look at nothing but "stuff," but we are glad to find that Mr. Tegetmeier has also an eye for grace and beauty, two most important properties in a Carrier. The first-prize hen was a beauty in all points. The winning Blue cock was a nice bird but cloudy in colour. Pouters were fair, the cup Black cock a capital bird. Barbs were a strong class of nineteen, the cup going to a Red with a good head. Jacobins were another strong class, but with the exception of

the prizewinners they were poor. Fantails good. The cup for Turbits went to a Red in beautiful condition, and exceedingly good in beak and colour. In English Owls first was a well-known winner, and now he will have to take his place amongst the champions at the Aquarium Show. Foreign were good, also the Tumblers. Dragons were a nice lot, but hardly so numerous or the quality so even as we have seen. The first-prize Blue Chequer cock was very good in colour and style. Both the show and homing Antwerps were well represented. Runts were capital. The Variety was a strong class; many other birds in addition to the prizewinners were well deserving of prizes.

The Judges were for *Poultry*, Messrs. Hewitt and Teebay; and for *Pigeons*, Mr. Tegetmeier. Mr. Esquilant was also announced as one of the Pigeon Judges, but he did not officiate.

FARNWORTH POULTRY SHOW.

THIS Show took place on Thursday last in the usual field, but unfortunately the weather was very unfavourable, as the rain commenced early in the morning and continued the whole of the day. The entries were but 195 in all, though the list is a very good one, the prizes being in most classes £2, £1, and 10s. with the addition of eight silver cups of the value of £35.

Dorkings headed the list with six entries, and the birds of fair quality. *Brahma* chickens were a good lot, the cup going to a pair of Dark chickens, the best that exhibitor has had out this season, except that the pullet carried her tail on one side. We considered pen 281 (Lingwood) should have had a place. In old birds Light were placed first, but we preferred Messrs. Duckworth's pen of Dark ones. *Cochins* (young).—First a grand-shaped pullet, pale in colour and far too much hock, with a leggy thin cockerel very mealy on the wing; second by far the best as a pair, very high in colour and better in Cochins shape; the third losing by very little. Partridge chickens very good. Cinnamon or Buff (old birds).—First a pen that have been good, but altogether out of it here. Although the cup was awarded to them they were in the most ragged plight and out of shape, Mr. Tomlinson's birds being much more to our taste, being higher in colour and in good order. Any other old birds.—First Partridge, the hen good and well marked but out of order; the cock altogether devoid of fluff and leg and foot feather. The best were Pen 303 (Perceval), in grand order, and the cock an enormous capital-shaped bird. *Game* (Black Reds).—First a good pen, the pullet very good in all points, the best cockerel in the class being the third (Pratt), but the pullet had a dark eye. Brown Reds were a raw young lot, but the first very good. In the Variety class Piles won, as also the cup, but the cockerel was very bad in colour on the tail hackle. *Spanish* were very good in all respects. *Hamburghs* had four classes, and the cup awarded to a grand pen of Gold-spangles. *Polish*.—First and second Black; the second, by far the best, were perfectly dry when judged, but the first were as wet as could be, and it puzzled us how the awards were so made. In the Variety class first were Black Hamburghs, second Crève-Cœur, and third Leghorns; all good pens. In *Bantams* the cup was won by a single Pile cockerel, a capital coloured bird; the classes generally good. In the Variety class Black Rose-combed were first, Silver Sebrights second, and Pekins third. *Ducks* were an excellent section, the cup going to a fine pen of Aylesburys.

POULTRY.—DORINGS.—*Chickens*.—1 and 3, L. Pilkington. 2, J. Copple. **BRABMA** POOTRAS.—1, J. Birch, jun. 2, G. & J. Duckworth. 3, T. Beardsworth. *Chickens*.—Cup, J. H. Jones. 1 and 3, E. P. Percival. 2, E. Pritchard. **CINNAMON** OR BUFF.—Cup and 1, E. P. Percival. 2, A. E. Darby. 3, H. Tomlinson. *Chickens*.—1, J. H. Jones. 2 and 3, C. Sidgwick. **PARTRIDGE** feather or any other variety.—*Chickens*.—1 and 2, R. J. Wood. 3, J. H. Jones. Any other variety than Cinnamon or Buff.—1, R. J. Wood. 2, R. P. Percival. **GAME**.—Black-breasted Red.—*Chickens*.—1, T. P. Lyon. 2, J. F. Walton. 3, J. R. Pratt. Brown-breasted Red.—*Chickens*.—1, W. A. F. Fenwick. 2, G. C. Burnett. 3, C. W. Brierley. Any other variety.—*Chickens*.—Cup and 1, T. P. Lyon. 2, J. Halsall. Any colour.—*Cock*.—1 and 3, C. W. Brierley. 2, T. P. Lyon. **SPANISH**.—*Chickens*.—1 and 3, J. Powell. 2, H. Wilkinson. **HAMBURGH**.—Golden-pencilled.—*Chickens*.—1 and 2, H. Pickles. 3, J. Rawnsley. Silver-pencilled.—*Chickens*.—1, J. Stutter. 2, J. Rawnsley. 3, H. Pickles. Golden-spangled.—*Chickens*.—Cup, 1, and 3, G. & J. Duckworth. 2, J. Rawnsley. Silver-spangled.—*Chickens*.—1, H. Pickles. 2, J. Rawnsley. 3, J. Fielding. **POLANDS**.—1, P. Unsworth. 2, J. Rawnsley. 3, J. Fearnley. **ANY OTHER VARIETY**.—1, C. Sidgwick. 2, G. Furness. 3, C. W. Kellock. **SELLING CLASS**.—*Chickens*.—1, J. H. Jones. 2, P. Unsworth. 3, J. B. Pratt. **BANTAMS**.—*Game*.—*Chickens*.—Cup and 1, E. Walton. 2 and 3, W. F. Entwistle. *Cock*.—1, E. Walton. 2, G. Maples, jun. 3, R. Brownlie. Any variety except *Game*.—1, E. Walton. 2, M. Leno. 3, H. B. Smith. *vhc*. T. Green. **DUCKS**.—*Rouen*.—1, J. Walker. 2, T. Wakefield. 3, W. Evans. *vhc*. R. Gladstone. *W. Evans*. *any other variety of Ducks or bantams*.—Cup, 1, and 2, J. Walker. 3, J. Miller. Any other variety of *Ducks or bantams*.—1 and 3, J. Birch, jun. 2, J. Walker. **TURKEYS**.—1, R. Gladstone. 2, J. Walker. 3, P. Hinde.

JUDGES.—Mr. R. Teebay, Fulwood, Preston; Mr. G. Fell, Springfield, Warrington.

GOSSIP ABOUT BEES.

Two or three months ago while on a visit to England a Swedish gentleman came to Sale to see me and learn all he could about our hives and system of management. He is an extensive and intelligent apiarian in his own country, but had been rather unsuccessful with a kind of hive which is some-

what popular in this country. Questions by the score were put and answered; first and second swarms were taken from their hives, and queens transferred from one hive to another in his presence. Then he entered our dwelling house to get a cup of tea with my queen bee. The bread and butter was welcome enough, but he was more hungry for every scrap of bee knowledge that he could pick up and carry home to Sweden. He and his family possessed thousands of acres of land covered with good pasture for bees, and he said he would establish an apiary of hundreds of hives made after the fashion of those he saw here. "Why don't you yourself keep hives by the hundred instead of the dozen?" is one of the last questions he put to me.

Some of our customers for honey on finding that it is all sold ask, "Why not keep more bees?" This question has often risen up in our minds, and been answered by the fact that our occupation of gardening is quite enough for our declining strength and energies. Bee-keeping is but an adjunct of secondary importance here, but it is an adjunct that yields a great fund of enjoyment and a large margin of profit.

Between thirty and forty years ago we were sent by the late Dr. Lindley to a situation as head gardener. In this situation we found some things of a disquieting character. The servants of the house had access to the fruit (there being no walled garden), and the housekeeper and her friends were allowed to take what they liked best, and sometimes the under gardeners were blamed for what was missed. Then I was strongly tempted to entertain the thought of abandoning the occupation of gardening and betake myself wholly to bee-keeping. But we bore the disquietudes of the place as well as we could for two or three years. Our next situation was an exceedingly comfortable one, and so we have continued at gardening up to the present time. Our confidence in bee-keeping rather increases than abates. Any active man with a knowledge of bees may earn a substantial and good living from them. We were born and brought up in the midst of successful bee-keeping, and the impressions we received in early life have been deepened by a life-long experience. In making these remarks our object is not to tempt anybody to leave his calling or occupation and betake himself wholly to bee-keeping: it would be risky in our opinion to do so, and it might be ruinous. All beginners in every trade and line of business have difficulties to overcome. To all who contemplate bee-keeping on a large scale we would suggest caution, and that a commencement be made with bees as a remunerating adjunct for two or three years, so that the right way be felt, an experience gained, and a market for the produce found. Bee-keeping to us and many others is a source of profitable enjoyment, and to many more moving in the higher walks of life it is a source of pleasant recreation. To the sons of toil we have commended bee-keeping. To well-behaved and well-intentioned and industrious working people we more strongly than ever commend bee-keeping. To those who are partially disabled for hard work, to widows and others in straitened circumstances, bee-keeping in its simplest form would be a great helper. I have only one aunt surviving, about ninety years of age; after an experience of seventy years amongst bees she holds to their worth with a certitude of grasp, and no wonder, for she has found them to be a source of support to her during her widowhood. Last time I was in Scotland, about six years ago, her first swarm that year had gained 60 lbs. weight on the heather, and she had realised 200 lbs. (£10 worth) of honey from four stocks of bees. But few £10 will be realised this year from bees, I fancy, for I do not remember a worse season; at any rate, I never had bees to manage in a worse season. For a series of years we have had cold late springs, but this year we have had a cold, late, rainy summer, which has been most disappointing and discouraging to apiarians generally, especially to beginners who have never yet had a remunerating return from their bees. With strong hives in our possession we know how difficult it is to subdue the felt impatience for sunshine. We are in no mood to stint our sympathy for beginners who have had their hopes blighted this year. It is not a pleasing thing for bee-keepers to balance their gains and losses at the end of such a season as the present one. We have taken but one hive of honey (15 lbs. only), sold some stocks, and placed about forty stocks in our garden for another year. Our expenses so far are greater than our income. If we part with a few more hives the balance will be placed on the right side, and our stocks then will be as numerous as they were at the commencement of the season. Let us all look forward hopefully, and believe what Mr. Gladstone told some excursionists lately amid a downpour of rain—viz., "when things are at their worst they grow better."—A. PETTIGREW.

OUR LETTER BOX.

SILVER-GREY DORKINGS AT THE CRYSTAL PALACE.—"May I, as in former years, appeal once more through your columns for aid towards a five-guinea cup for the best adult Silver-Grey Dorking cock or hen at the next Crystal Palace Show? My apology for so often begging for this class must be that I have never myself won the cup for which I collect. If subscribers are kind enough to send me their subscriptions without my writing to them personally they will confer an additional favour.—O. E. CRESSWELL, *Early Wood, Bagshot, Surrey.*"

POULTRY HOUSE (*An Irish Subscriber*). You will find plans in our "Poultry Book for the Many."

BRABRA VULTURE-HOOKED (*C. S.*).—Vulture hooks are a great disadvantage to Brahmas, and should never be seen on a prize bird. It is only of late they have been shown, and the sooner they become extinct the better. They are a deformity, and cannot be credited with the least usefulness. A Brahma hen should have no black in the wing.

DUCK MANAGEMENT (*Constant Subscriber*).—The drake, having been the stock bird for three years, should now be set aside for a younger one. Ducks lay the greatest number of eggs the first year. Their eggs are more to be depended upon as fertile the second year, and after the third they should be put in a pie and their places filled by younger birds.

AYLESBURY DUCKS (*W. H.*).—Yellow bills demonstrate that the birds are not purely bred. The following are the requisite characteristics—plumage spotless white, bill pale flesh colour, legs orange.

GREY LINNET (*A Constant Reader*).—The bird pecking at his feathers so much is undoubtedly caused through the vermin or bird lice infesting its habitation. You have a remedy by changing the bird's quarters, and that must be effected speedily, especially as the system is in a poor state now the bird is moulting. Remove the bird into another cage whilst you destroy with turpentine or naphtha the vermin secreted in the infested cage. After well scalding and cleaning the cage will be again fit to use. Linnets in their wild state eat many kinds of seeds, especially rape seed, cabbage seed (not winter cabbage seed), poppy, dodder-grass seed, berries, and buds of trees. In confinement they will live best on summer cabbage seed, which does not require to be soaked as for Chaffinches, as Linnets have a powerful crop and stomach, and can therefore better digest the seed. To our Linnets, which we let fly about with some Canaries, we give Canary, summer rape, linseed, and only very sparingly indeed of hempseed. Linnets require exercise, more so than Canaries, and if they be too well fed in cages they often quickly die from over-feeding and want of exercise. They like to peck at salt, and it is necessary to occasionally supply them with a little. It is an excellent preventive against disease. Train your Linnet to use the bath. Some birds will very quickly take to it, and even over the moult it will do more good than otherwise. Birds should be freely supplied with sand and water.

BEES UNDER A FLOOR (*W. Hurst*).—If you can remove the boards above the bees, and cover them all round with a handkerchief or thin rag wet with chloroform, they will rapidly drop from the combs in a helpless state and remain motionless. As soon as this shall take place cut all the combs out and place them in an empty box or milk-pail for removal. If you have not courage to do this, you, perhaps, could fill the cavity which the bees inhabit with the fumes of sulphur or powder, and thus destroy the whole swarm. Seek the assistance of any old bee-keeper in your neighbourhood.

FERMENTING HONEY (*Dorset*).—Warning your honey before the fire will not prevent fermentation, but rather increase it. Some American bee-keepers boil their honey when fermentation begins. Boiling may act for a time, and is probably the best thing that can be done to hinder the fermenting process. As soon as any of our honey begins to ferment we boil it, and then give it either to poor people or weak hives.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.						Rain.
1877	Baromet- er at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		In. — 	

REMARKS.

- 12th.—Fine bright morning, pleasant day, though there were two or three slight showers; rain at 9 P.M., but starlight at midnight.
 13th.—Rather a grey day, with a little rain.
 14th.—Dull, damp, and showery all day; high wind all night and till 9 A.M. on the 15th.
 15th.—Wind and rain in early morning, rather dull forenoon; fine afterwards.
 16th.—Fair but dull early, getting gradually finer; very bright in the afternoon and evening.
 17th.—A very fine and pleasant day, though not very sunny.
 18th.—Bright and fine all day; much more sun than there was yesterday.
 A dry fine week; very cold in early mornings of the 16th and 17th.
 ERRATUM.—Barometer at 9 A.M. on 11th should have been 29.816, mean for last week 30.000 ins.—G. J. SIMONS.

COVENT GARDEN MARKET.—SEPTEMBER 19.

A VERY steady trade has been done during the past week with scarcely any alteration in prices. Kent Cobs have met with a ready sale at slight advances but show signs of a reaction, the supplies being very heavy the last two days. Pines in demand.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	½	sieve	2	6 to 3	Melons.....	each	1	6 to 4	0
Apricots.....	dozen	0	0	0	Nectarines....	dozen	4	0	18
Chestnuts.....	bushel	0	0	0	Oranges.....	£ 100	10	0	16
Currants.....	½	sieve	0	0	Peaches.....	dozen	5	0	24
Black.....	½	sieve	0	0	Pears, kitchen..	dozen	1	0	8
Figs.....	dozen	1	0	3	dessert.....	dozen	2	0	4
Filberts.....	lb.	0	4	0	Pine Apples....	lb.	5	0	8
Cobs.....	lb.	4	0	4	Plums.....	½	sieve	10	0
Gooseberries..	½	bushel	0	0	Raspberries....	lb.	0	0	0
Grapes, hothouse	lb.	1	6	4	Walnuts.....	bushel	5	0	8
Lemons.....	£ 100	6	0	10	ditto.....	£ 100	0	0	0

WEEKLY CALENDAR.

Day of Month	Day of Week.	SEPTEMBER 27—OCTOBER 3, 1877.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.		Clock before Sun.		Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.			
27	Th		65.3	44.6	55.0	5 56	5 46	7 9	11 43					20	9 8			270
28	F		65.1	44.0	54.5	5 58	5 43	7 51	0a57					21	9 28			271
29	S	MICHAELMAS DAY.	65.5	44.3	54.9	5 59	5 41	8 50	2 1					22	9 48			272
30	SUN	18 SUNDAY AFTER TRINITY.	65.0	43.3	54.2	6 2	5 36	10 5	2 50					23	10 27			273
1	M	Cambridge Michaelmas Term commences.	63.4	44.7	54.1	6 4	5 34	11 31	3 25					24	10 36			274
2	Tu	Royal Horticultural Society—Fruit and Floral Com.	64.4	43.9	54.1	6 6	5 32	morn.	3 51					25	11 4			275
3	W	Westminster Aquarium Potato Show. [mittees at 11 A.M.]	63.7	44.5	52.6	6 8	5 30	1 2	4 10					26	11 20			276

From observations taken near London during forty-three years, the average day temperature of the week is 65.6°; and its night temperature 34.2°.

AUTUMN NOTES ON VINES.

GRAPES, it is to be feared, will not keep well this winter. Being thoroughly matured before the short days set in is the most essential point to insure their preservation, but late Grapes I hear from many places are far behind in ripening, and in some instances they are actually refusing to colour. When this is the case with good Grape growers of extensive experience it is reasonable to suppose that amateurs and those with a limited knowledge of how best to assist the Grapes in ripening must now be labouring under considerable difficulty, and no doubt a few remarks on this matter and a few others relating to the autumn treatment of the Vine will be acceptable at the present time.

Grapes will colour as much in one week of bright weather as they will in three sunless weeks. Should the latter part of September and all through October turn out fine, as it is to be hoped they will, there is yet a chance of Grapes being in good keeping order by the beginning of November; but, on the other hand, if the weather does not at once make a change for the better artificial means must be resorted to, to make up for the want of sun heat; and although this will be both expensive and imperfect to a certain extent, it will be cheaper and more satisfactory than complete failure.

The best time to apply fire heat to ripen Grapes is during the day. In dull days raise the temperature to 65° or 70°, with a little air on at top and bottom. Let the fire go very low at night when the house is dark, and little air being admitted. When there is only a bright day once or twice a-week do not let the fire go out because it is fine, but, on the contrary, keep the fire as strong as on a dull day, give more air, and let the temperature rise to 80°, 85°, or 90°. This is the time they will colour quickly, and not only colour but flavour, which is more desirable than a fine appearance. Worked as above described it is surprising the progress Grapes will make towards maturity in three or four weeks. Of course when day after day is bright and warm it is unnecessary to use any fire heat. Then do not admit too much air. Always keep the heat up about 80° during the day, and close the ventilators early enough in the afternoon to maintain a temperature throughout the night of 65° or 70°. These are the best ways of working the heat, but other assistance may be given.

In the summer time when the Vines are growing fast and strong, the laterals are generally pinched at the first leaf. A shoot soon pushes away from this again, and very often it is not pinched back to this base again but at the next leaf, and when it is treated like this three or four times the laterals at this time are bearing more leaves than the principal rods, and running into one another they form a dense mass of foliage. This interferes very much with the air circulating about the fruit, and it also obstructs the light; and it does more, and perhaps worse than this—it prevents the bearing wood of

next year from becoming ripe. It will thus be seen that these lateral shoots may do much harm to the Vines after this time and should therefore be removed. To remove them early in the season when the wood is green and the sap flowing rapidly would give the Vines a severe check, and would probably produce shanking and other maladies; but now, when the wood is mostly hard and becoming ripe, I have never been able to see that taking off the side shoots did any harm to the Vine afterwards. Every one of our Vines were gone over like this the other day; both those with fruit and without it. Before, the glass could not be seen in many parts inside; now, the bunches can be seen looking in from the outside down through the leaves. Every berry is exposed to the light, and every inch of wood is the same. In our case the shoots were not removed so much to let the Grapes ripen as the wood. This, although brown and might be considered quite ripe by some, is still sappy; and I am a firm believer in ripening the wood to the fullest possible extent. This accomplished, let the wood be small or thick, next year's crop is secured.

Apart from giving the wood and fruit a better chance of ripening, cutting the laterals off now has another recommendation. It is well known that nothing condenses moisture so much as a thick covering of leaves against the glass or above the fruit. Grapes begin to damp now; when the foliage clusters round them it is impossible to prevent this, and much decay may be traced solely to this cause. When the leaves are removed the moisture which rises from underneath passes direct to the glass and runs down it without ever resting on the Grapes. When the Vines are so far advanced in ripening that the leaves are dropping, do not let them lie about the floor, but gather them with the hand every morning, and this will not only keep the house tidy, but the atmosphere sweet and free from moisture.

Where Vine roots are wholly in outside borders there is not much danger of the roots becoming dry—this year at any rate; but inside borders very often become dust-dry through receiving no water from the time the fruit begins colouring until it is all cut. I do not think it is wise to let the soil become so dry; Vines with their roots outside in wet borders just ripen their fruit as well and as finely flavoured as those dried off inside. Where borders have been kept dry, and the fruit now cut, give them a thorough watering at once, or many of the young fibrous roots will perish, the wood shrivel, and the leaves wither up prematurely.

These notes apply chiefly to work that must be done from now up to the beginning of November. By that time bedding and other plants will have been put into many vineries, and notes on what to do then will appear about that time.—A KITCHEN GARDENER.

THREE YEARS' EXPERIENCE IN A GREENHOUSE.

HAVING decided to build my house I set about it at once. Striking the iron while it is hot, is an old saying and a good

one; you work with so much more pleasure and energy when carrying out a new project on the spur of the moment.

I first called on several nurserymen in the neighbourhood and asked their opinions as to whether a span-roof or lean-to would be best, also should I build on the level or how much below. Adopting their suggestions, I decided to sink 18 inches and to have a span roof; firstly because you economise the heat and prevent a rapid evaporation by being somewhat below the surface, and secondly because a span roof is the only one under which to grow symmetrical plants. I was not very particular as to size—not, however, wishing to exceed about 12 feet by 9, so that in purchasing my lights for the roof I was easily accommodated. After a little searching I found and bought two glazed lights 11 feet by 4 feet 6 inches for £2 5s., a door in frame 10s., carriage 7s. 6d.

Now I had data to work upon; so I at once called in a bricklayer and a labourer, who dug out the necessary space and put up the walls, 4 feet in height by $4\frac{1}{2}$ inches thick, price £2 7s. 6d. Next I employed the village carpenter to work with me in making the side lights and ends, also to help me to put the whole thing together: his account with timber was £3 10s. Then I went at it alone, measured for the glass, and though I had never put in a pane in my life I determined to glaze it, having first asked someone to show me how to manipulate. I only had one minute's instruction. Well, I surmounted that difficulty much easier than I expected. Glass, putty, and knives, 17s.; paint (24 lbs.) and brushes, 12s. 6d.; timber for stages, 9s., which I put up in this way—three tiers on the north and a level stage on the south, leaving 2 feet 6 inches in centre for pathway. Dimensions when complete, inside 10 feet 6 inches by 7 feet 6 inches; 4-foot brick wall, 15-inch side lights.

Now came the knotty point, in fact several knotty points—how to heat, and with what to fill the house, &c., for I was so thoroughly ignorant on all matters connected with greenhouses, having spent most of my life travelling in Australia and China, that I had to work very much in the dark; but he who truly loves plants and flowers soon finds out the way to treat them successfully. In the first place I resolved not to make my greenhouse simply a storehouse for Geraniums, Fuchsias, and ordinary bedding plants, especially as I afterwards found that I could keep them well enough in a cold room, but to grow as many distinct and different varieties of flowers, Ferns, &c., as I could manage in the space at command that I might have a constant and increasing pleasure in watching the growth and development of beauty in various forms and stages, instead of the ordinary satisfaction of turning out a batch of Geraniums, Calceolarias, &c.

I procured a few *Adiantums*, *Primulas*, *Cinerarias*, cuttings of French *Geraniums* Dr. Andry, *Fulgens*, *Victor* and *Neptune*, a plant of *Pteroma elegans*, *Plumbago capensis*, six *Azaleas*, two *Camellias*, one *Aloe frutescens*, two *Acacias*, six *Cyclamens*, six *Cactuses*, one *Deutzia gracilis*, and two *Cytisuses*. These I thought enough for a start, though I afterwards became more ambitious. The selection of these plants was due partly to advice of friends, but mostly to that comprehensive little work "The Greenhouse," published at your office.

Autumn being far advanced I began to look about me for a heating apparatus, and after numerous inquiries I decided on a Roberts's patent terra-cotta stove, and saw one advertised, largest size with smoke pipe for 25s. I bought it, and I think on reckoning up the items you will find the entire cost for building, painting, heating, &c., amounts to about £12 15s. The stove I found effective but difficult to manage. It is most simply constructed, and the directions so plain that it seems impossible to go wrong. However, I managed it at last, and found very little trouble in keeping the heat up to 50° in the depth of winter without any fresh supply of fuel for from twelve to twenty-four hours, and I have even found it quite hot at the expiration of thirty-six hours. You must own it is worth a little trouble to arrive at this result when I tell you it only costs about £2 15s. to keep up quite the heat of a semi-stove house for eight months. One great drawback I had to contend with was the dry heat, which generated red spider on the *Azaleas*, shrivelled up the *Adiantums*, &c.; so after thinking it over I hit upon a plan which has proved invaluable. I procured a sheet of iron 2 feet by 2 feet punched with holes round the edges for nails; I then fixed together four pieces of wood 1 inch by 4, nailed on the iron plate, putting a piece of list between it and the wood—making, in fact, a shallow box with an iron bottom nearly watertight. I then half filled the box with sawdust, put in a

gallon of water, and placed the whole on the top of the stove. In less than a week the beneficial effect was plainly observable, indeed it proved a complete success.

It then occurred to me that this tray of hot moist sawdust might be still further utilised; so I placed on it according to season and requirements pots and pans of cuttings, *Verbenas*, *Heliotropes*, *Deutzias*, *Lobelias*, and many other things that will not readily germinate or strike when most required—namely early spring. Everything grew and rooted in a wonderfully short space of time. The plants were potted-off in 60's, returned to the tray for a week, then removed to narrow shelves swung with copper wire from the rafters so as to be close to the glass. The only fault I found was that they grew too quickly.

As to the management of the stove itself I feel constrained to give my fullest experience, the more especially as I know many who have entirely failed in its management. Indeed I called on a florist this morning to show him a new *Gloxinia* I had raised since March, and he asked how I heated. I told him. He was much surprised, as he had heard the stoves in question were complete failures. In the first place the stove is in three parts—stand or ashpan, body, and lid. I found the separation of the body from the stand to be a mistake, so had them cemented together. Then I had a 4-inch instead of the usual 3-inch smoke pipe: this causes a greater draught and obviates the necessity for sweeping, which operation is troublesome and dirty, besides being detrimental to the plants; whereas with the larger flue you have only to wait till the fire is well blazing, then with a few smart taps up and down the pipe the soot falls, catches fire, cleans the chimney, and gets the heat up at the same time. Close the dampers to a quarter of an inch, then in about an hour, or less if you find the stove heating regularly, shut them closely. Assuming that you light your fire at 8 p.m. you will under all ordinary circumstances find it still giving out sufficient heat at the same hour next evening. Now, as to lighting, a most important item. Fill the portable pan three parts with coal, then a piece of paper, then a good handful or more of dry wood (I use mine hot from the oven), on the top of that a good shovelful of fair-sized coals, and it is ready. For the sake of giving fuller information we will suppose you wish to change your fire, heat going down. This requires practice to prevent injury to the plants from fumes which must escape. First remove the tray of sawdust, then open the top ventilator; with a strong iron hook in hand take the top off the stove, lift out of the house the exhausted pan, pop in the fresh one, throw in a match on the paper, put on the lid, shut the ventilator, and the whole process is finished in less than a minute; then you have nothing to do but regulate the dampers as above advised. All this may appear very simple, but it took me at least six months to find out the right way to manage the thing effectively. This is only my first year's experience, but it was practical, and acting upon it I made many improvements the second year.—*RESPICE FINEM.*

STRAWBERRIES—SOIL—SORTS.

Most gardeners will agree with me that much so-called Strawberry culture is unworthy of the name, is just a mere manuring of the soil, planting of the plants, watering, weeding, and cutting off runners—the ordinary routine in point of fact, without any attempt to find out if the soil itself requires any special treatment to render it suitable for the production of fine fruit: hence, therefore, this outcry about sorts and soils so calculated to mislead that it cannot be left unnoticed.

On page 148 I stated that "all kinds grow strongly and bear fruit abundantly in a rich loam, or in soil that is brought by cultivation as nearly as may be into a similar condition to it." I repeat the statement here, and challenge anyone to refute it. "AMATEUR, Cirencester," says I go a little too far, or to put it in other words, am a little too positive about this matter, quoting Messrs. Rivers, Darwin, and Beaton to prove it. Now these are the names of good men and true. All honour to them! Their words have not been lightly spoken. What say they? Darwin: That "successful culture of British Queen depends upon the condition of the soil." Beaton: That "to grow British Queen at Shrubland the whole nature of the soil must be altered." Rivers: That "Eliza does not thrive except upon a chalky soil." I do not, therefore, hesitate to claim the two first of these great authorities as being clearly on my side, and am able to assert from my own experience that splendid crops of *Eliza* have been produced by plants growing in soil without any perceptible traces of chalk,

which Mr. Rivers will doubtless be glad to know as tending to prove the greater usefulness of his valuable seedling.

If climatic influences were in question I might agree with the teaching which points to certain localities for certain sorts, but that is clearly not the question; it is simply one of soils, all of so pliant a nature as to be susceptible of any improvement or change, and I submit that to regard such a simple matter as an insuperable difficulty is not only wrong but decidedly mischievous. Such obstacles we must expect to encounter and resolve to overcome. To those who think the doing so is likely to prove costly or difficult let me recommend a second perusal of a paper by "ESSEX" on page 170; it abounds with good sense, and enforces better than any argument could do the perfect results attending an intelligent method of culture.

More fault has been found with British Queen and Dr. Hogg than with any other kinds—not about the quality of the fruit, for that is so excellent as to be above criticism, but about growth and crops. Has the fact that both of them, like certain other high-class fruits, require that high culture of which they are so worthy, not yet obtained that clear recognition which it merits? It is many years ago that I was taught this lesson—taught it too by a pupil of my own whom I had taken from the plough, and who is now gardener to a Marquis. In a garden which I sent him to take charge of, and where I in really good soil had had crops of British Queen of only medium excellence, he by superior culture had subsequently abundant crops of magnificent fruit. All kinds of Strawberries like sewage, or in fact any liquid manure; those of the British Queen type will not perfect their fruit without it, the yellow hard-tipped fruit affording as distinct an indication of starvation as do the pinched features and attenuated limbs in a human being. Give liquid manure plentifully to the Strawberry, and, other things being equal, you may have abundant crops in pots as well as in the open ground of fruit full-sized and superior in every respect.

Surely it is somewhat premature to pronounce the new kinds *Exquisite* and *Traveller* as "capricious, only doing well in certain seasons and places," as somebody has done in reply to my recommendation of them. Perhaps the best answer I could make would be to inquire, For how many seasons have these novelties been tried, and in the hands of how many clever men? My opinion rests solely upon what I saw and tasted in a single garden where they were growing side by side with some dozens of other sorts new and old, and there I was so much pleased that I intend growing both of them. I may add that both the gardener and his employer thought much of them, and letters have come to me from other quarters all speaking highly of them. Will my critic tell us why they are capricious, and in what places, or rather soils, they do not answer, and thus afford us a hint which may prove more useful than a mere vague stricture can do?—EDWARD LUCKHURST.

THUJA OCCIDENTALIS.

THIS, the American *Arbor-Vitæ*, makes a capital hedge, and is well suited for many positions, especially where not exposed to strong gales of wind. It answers better in partially shaded places than many other shrubs do, and with those who understand its nature and the kind of treatment necessary to make it accommodate itself to certain positions very pleasing screens may be formed to hide unsightly walls. I have seen such screens, and have dressed some of them. For hedges of this shrub to have a pleasing appearance they should never be clipped with the shears, as by doing so you give them a stumpy appearance, which it is desirable to avoid.

This *Arbor-Vitæ* is employed in many nurseries to form screens for giving shelter to plants while they are in a young and tender state, and for this few shrubs are better adapted when judiciously managed. They can be kept very thin and green down to the ground for many years, while they are devoid of that stiff and shorn appearance which most hedges have. They occupy very little space, and to prevent their roots spreading out them with a spade at about a foot or 15 inches from the stem. By doing one side one year, and then the other side the following year, the roots will be kept from impoverishing the ground or from injuring young plants which may be near to them. When planted against walls the leader and main branches as they grow up should be fastened to the wall by means of iron staples passing round them and into the wall. When the *Arbor-Vitæ* is judiciously managed in such a position, and having all the unnecessary breastwood cut off with a knife, it can be managed so that it may retain a graceful and

Fern-like appearance, which is especially pleasing when the wind ruffles its feathery sprays; indeed, under the management of a person who understands how to train and manage the *Arbor-Vitæ*, it is so accommodating that it can be turned to many useful and ornamental purposes.—G. DAWSON.

WORTHY NOTES AND SUGGESTIONS.

I REALLY must thank my friends S. Reynolds Hole and the "HEREFORDSHIRE INCUMBENT" for their very kind allusions to me. It was a great trial to me not to be well enough to be present at the great Rose contests of the present year. I must hope that our great authority on Roses, great I may say in both senses of the word (and "may his shadow never grow less,") may in the end prove me wrong about Cheshunt Hybrid. He knows, however, I am somewhat firm (obstinate, some people call it) in my opinion, and till I see a better bloom than I have hitherto seen, all its growth and its efflorescence and the fact of its being a hybrid with a certain indefinite proportion of Tea in it, will not make me alter my opinion that as an exhibition Rose it is only second-rate, and that before many years are over it will gradually decline in its position as certainly as *Marquise de Castellane* and *Etienne Levet* will advance.

I agree with my old friend S. Reynolds Hole, it is certainly bountiful, I only question whether it is most beautiful; and as he knows, I do not like to differ from him in opinion. I am obliged to confess, though I have a great hankering after other flowers, notably for *Gladioli*, and *Phloxes*, and zonal *Geraniums*, and tuberous-rooted *Begonias*, that after all a really good Rose carries off the palm. I only wish her majesty the queen of flowers was less at the mercy of seasons; or, perhaps I might say, that we gardeners were less at the mercy of the elements under such a season as the present. Here we have not had forty-eight consecutive hours without rain since the 4th of July, and the average rainfall of each week has been over an inch. Roses like *M. Noman* and *M. Lacharme* glue-up their petals and rot in the buds. None but the hardiest with the firmest petals and best outer guards—i.e., good, well-developed outer petals, could stand the weather.

To show the backwardness of the season, *Sedum Fabaria* or spectable on a warm border facing south is not yet nearly in bloom, and on a rockery with south-east aspect will not be in bloom for two or three weeks. We have always a harvest festival. Three weeks ago we issued a programme or schedule for a small cottagers' and agricultural exhibition as an accompaniment to the festival. Last night (September 14th), in torrents of rain we, the Committee, met to try and decide upon a day, but the unanimous opinion was that it required at least a fortnight or three weeks of fine dry weather before we could fix upon a day for a harvest thanksgiving at all, and that possibly we might see again, what I saw in 1860, a field of Wheat uncut on the 12th or 13th of November. This certainly is not florists' weather any more than farmers'.

I am glad "*WYLD SAVAGE*" has raised his voice against the very inadequate prizes often offered by so-called horticultural societies, and the impediments they too often offer for exhibitors. What would the *Savage* think of 6s. offered as a first prize for three *Begonias*, when each plant shown was worth at least £2 or £3, and were quite as valuable as the three stove and greenhouse plants for which a prize of 30s. was offered? However, there were the usual acrobats, and a very fat slack-rope dancer, who proved too much for the wire, which gave way under her lucubrations. I dare not, as "*WYLD SAVAGE*" does, mention names, but I certainly wish with him that horticulture proper was properly represented in these country shows, instead of acrobats improper with all their accompaniments. I do not like going to a cricket match to see it burlesqued by a parcel of clowns dressed-up in fancy costumes, and who say you "flupid stool," instead of you "stupid fool," if anyone misses a catch or has the misfortune to get bowled-out; but it is even worse to see a good horticultural show gradually decaying into a second-rate exhibition of acrobats, clowns, and fireworks at night, and the tents deserted to look at an overdressed female, or underdressed as the case may be, exhibiting her prowess on the stage.

One word more to the *Savage*. I thought his request of a list of herbaceous perennials to grow in a border, if I remember right about 50 feet by 7, would bring him a list as long as his arm. I know I am prejudiced, but I cannot see why every possible variety of perennial should be crammed into a perennial border, any more than that I should grow every possible

variety of weed in a quarter of my kitchen garden in order to study and admire the picturesque growth of weeds. Only a certain quantity of perennials can be properly grown in a border such as he names, and a few of the best varieties of each sort will give him infinitely more pleasure than a conglomeration of all the herbaceous plants, which (to use the accustomed phrase), ought not to be omitted in a collection of perennials. Good Phloxes, Pentstemons, Gladioli, Delphiniums, Antirrhinums, and Dianthus in their different classes will give him far more bloom and far more satisfaction than the endeavours to grow about forty or fifty species in a limited space. Of course this is only my doxy, and may be heterodox, but as such I venture to put it forward.

I do not think there is any royal rule as to time in planting Roses which the "HEREFORDSHIRE INCUMBENT" alludes to, but there is and always will be a state of rest for Roses, unless as last year a very open autumn be followed by an open winter, and afterwards a cold spring and wet summer. Under such conditions it is difficult to say when the wood is ripe enough or the plant sufficiently matured to bear removal; but I fully believe on the whole it is better to be too early than too late, and if not done before the Yule log appears on the scene it is better to defer it till the end of March or the beginning of April, when the plant will commence its growth at once. A very dry May or June will even then upset all calculations; but I think it is better to mulch than to water, and frequent ablutions only lead to surface-rooting and the necessity for further applications. I am in hopes "HEREFORDSHIRE INCUMBENT" will reap another year the fruits of his over-manuring, and that his kindness to his plants will not be thrown away.—C. P. PEACH.

THE POTATO DISEASE.

MR. ADDISON says that no one shall make him believe that the disease did not exist previously to 1846. That certainly is the year when it made its first great ravages; black or decayed Potatoes of course there always were the same as we now find in other roots after being stored a time, but can any one state well-authenticated cases of the true disease being found at the digging-time previously to 1846?

What Mr. Addison says about storing and sprouting being the chief cause of the disease is open to doubt. I have Ash-leaved Kidneys now that for years have been taken the greatest care of, only being allowed to sprout in boxes and then planted, but in a late, wet, sunless season like the present they have taken the disease badly.

The theory of Potatoes wearing-out and becoming more liable to disease has two sides. You may renovate their constitution by growing them occasionally on new land, but you cannot prevent their taking the disease. I have grown the old Fortyfold and Dalmahoy this year on some poor black sandy soil from which a Fir plantation of over forty years' growth was taken down last winter. It was a splendid crop, but three-fourths diseased. The disease could not have existed in the soil. Can anyone tell us what is the true cause of the Potato disease?

I certainly do not wish to differ with such an authority as Mr. Abbey, but he says it should be made imperative to separate the diseased from the undiseased tubers: that is what I suppose most people do. If you take some diseased Potatoes, not rotten ones, and lay them up very dry till spring, and plant them, they will produce good Potatoes not more liable to disease than others; and even at this time of year or a little later, among the stored Potatoes you will find sometimes a bad one that has commenced producing small good tubers. Some few years ago I had a plot lifted that just began to show the disease; they were graven not very thick for a short time, but wet weather and a press of other matters prevented their being looked over for three weeks, when they were found to be nearly all decayed. They were stored on the same plot they grew on. After a rain a few good tubers were picked-out and the others dug-in. The following year, for experiment, I planted a portion with Potatoes again. A dry hot summer followed, and I had a fine crop with very few bad Potatoes among them, and I remarked how strong and dark the foliage was.

There is, I think, a great connection between the Potato disease and electricity. I have noticed for years that you may first see it after a thunderstorm. This year we had thunder very early—I think the beginning of March. My frame Potatoes took the disease very shortly after, and on Good Friday

morning I could scarcely take a dish of good tubers from a whole frame. Now that was not brought on by either wet, or cold, or drought, because in a pit you can keep them as you like, but the electricity seemingly developed it. Of course, in many seasons you do not see a bad one in a pit or frame, but if the germ theory be correct it would be present one time as well as another. Sutton's Flourball this season stands its ground well, being nearly free from disease, and mine were not treated with salus either; and if anyone can raise a disease-resisting Potato like Sutton's, earlier in its habit and of more uniform quality, and as good a cropper, he will be a benefactor, and I think would acquire a fortune; for the climate has not enfeebled that yet, as is the case with others, such as American Rose, Snowflake, &c., which seem to have taken the disease as badly as any others this season.—JOHN PLATT, *Hillington*.

CRYSTAL PALACE SHOW.

SEPTEMBER 21ST AND 22ND.

MANY excellent autumn exhibitions have been held in the colossal structure at Sydenham, but it is questionable if any have been superior to the twenty-second Show, which opened on Friday last. Third prizes were wisely included in the schedule, a circumstance which no doubt contributed materially to the extent of the display. The Show occupied the whole of the north nave. The central table was decorated with Palms and other ornamental-foliaged plants. On this table the collections of fruit—Grapes (upwards of three hundred bunches), Peaches, Plums, Figs, Melons, Apples, &c.—were arranged. One of the side tables was chiefly occupied by Dahlias, an extensive and superior display; also Asters, Gladioli, and Roses. The other side table contained splendid collections of vegetables, the finest which have been seen for many a day; also miscellaneous collections of fruit, remarkably fine contributions of Roses, and an admirable selection of Gladioli. But although the Exhibition is unhesitatingly pronounced an excellent one it contained nothing particularly sensational; and on the other hand—and this constituted its chief merit—nothing, save perhaps a few inferior Grapes, that was not creditable to the several exhibitors. Thus much of the Show generally, and now to the classes, commencing with

FRUIT.

COLLECTIONS.—Class A was for a collection to consist of twelve dishes, two each of Pines, Grapes, and Melons being permissible, the remainder being single dishes. There were three competitors, the redoubtable Mr. Coleman, gardener to Earl Somers, Eastnor Castle, securing the foremost place. He was several points a-head of his rivals Mr. Webb, gardener to J. H. Manners Sutton, Esq., Burton-on-Trent, who had the second prize, and Mr. Upjohn, gardener to the Earl of Ellesmere, Worsley Hall, Manchester, who was placed third. Mr. Coleman's collection contained splendid Black Hamburgh and Muscat of Alexandria Grapes, medium-sized Black Jamaica and fine but unripe Smooth Cayenne Pine Apples, handsome Golden Gem and Eastnor Castle Melons, very large Pitmaston Duchess Pears, and capital dishes of Morello Cherries, Barrington Peaches, Pitmaston Orange Nectarines, with Green Gage Plums and Brown Turkey Figs of moderate quality. The most noteworthy fruit in Mr. Webb's collection were a pair of splendid Queen Pines weighing 5½ and 5¼ lbs. respectively. These fruit won him the second honours, Mr. Upjohn's Pines being rather small, but his other dishes, Grapes especially, and Melons, Peaches, Figs, &c., were of excellent quality. It did not state in the schedule that the Pines should be dissimilar, neither, indeed, was it specified that the Grapes and Melons must be distinct varieties. It is advisable that the conditions in this respect should be clear and definite. In the class for six dishes, distinct, exclusive of Pines, there were only two competitors—Mr. Neighbour, gardener to G. Wythes, Esq., Bickley, Kent, who was placed first; and Mr. Taylor, gardener to J. Johnstone, Esq., Upper Terrace House, Hampstead Heath, who had the second prize. Mr. Neighbour exhibited good Black Hamburghs and rather thin bunches of Muscat of Alexandria Grapes, a capital Scarlet Gem Melon but not quite ripe, fine Pine-Apple Nectarines also unripe, good Violette Hâtive Peaches, and Magnum Bonum Plums. The Grapes were the weak point in the second-prize collection, the other dishes being in equal if not better condition than Mr. Neighbour's.

GRAPES.—In the class for ten kinds, two bunches of each, Messrs. Lane & Son, Great Berkhamstead, and Mr. Wildsmith, gardener to Viscount Eversley, Heckfield, were the only exhibitors, and were placed in the order of their names. Messrs. Lane staged Mrs. Pince's Black Muscat, full and good but not well coloured; Gros Colman, extra fine; Foster's Seedling, rather small; Bowood Muscat and Muscat Hamburgh, excellent; Trebbiano weighing about 5 lbs., Black Alicante about 3 lbs., Muscat of Alexandria about 4 lbs., and Black Hamburgh and

Black Prince also very good. Mr. Wildsmith staged good examples of Black Hamburgh, Alicante, White Tokay, Foster's Seedling, and Mrs. Pince well coloured; the remainder were small. In the class for five kinds, two bunches of each, three collections were staged; Mr. Woodbridge, The Gardens, Syon House, winning first honours with medium-sized bunches but level and fresh of Madresfield Court, Golden Champion, Lady Downe's, Muscat of Alexandria, and Alicante. Mr. Peed, Roupell Park Nursery, Norwood, had the second place with larger bunches, but some of them were shrivelled and worn, although Gros Colman, Alicante, and White Tokay were good. Quality fairly beat size in this class. Mr. Bolton, gardener to W. Spottiswoode, Esq., Combe Bank, Sevenoaks, had the third prize.

In the class for three bunches of Black Hamburgh there were twelve competitors, some of whom staged excellent produce so far as regards shape of bunches and size of berries, but only one exhibitor staged really black and well-finished examples—Mr. Coleman, who had the third prize, the berries being small in comparison with those of Mr. Adams, gardener to Rev. Mr. Hudson, Frogmore Hall, Hereford, who had first honours with bunches of faultless shape and remarkably fine berries but deficient in bloom. Mr. Wildsmith had the second prize with very good examples and fairly well coloured. In this class size, to the surprise of many Grape growers, triumphed over high finish. It was a difficult class to judge, Mr. Adams' fruit being so fine and Mr. Coleman's so well coloured but small. A few very poor bunches were staged. Mr. Coleman won easily in the Muscat of Alexandria class with good bunches, about 3 lbs., and splendid berries. Messrs. Lane & Son were second with five or six-pounders, but rather irregular; and Mr. Day, Norton Hall, Daventry, third with medium-sized bunches and fine but not highly finished berries. Mr. Hollingworth, Turkey Court, Maidstone, Mr. Davies, Chelmsford, and Mr. Pepper, Bromley, exhibited well in this good class.

Mr. Earp, gardener to J. S. Sellon, Esq., Home Towers, Bournemouth, won the premier place in the Madresfield Court class with rather small bunches and berries, but excellently coloured and finished. Mr. Woodbridge was second, and Mr. Ridout, gardener to J. B. Haywood, Esq., Woodhatch Lodge, Reigate, third with much finer produce, but not well coloured. In this class quality won. In the Hamburgh class size prevailed. Mr. Stephenson, gardener to F. Peed, Esq., Roby House, Sydenham; Mr. Miles, Wycombe Abbey; and Mr. Toomer, gardener to W. Knowles, Esq., Streatham, were placed in the order of their names with Foster's Seedling. The berries were generally small, and the class of six competitors a rather weak one. A better display was made in the next class—Lady Downe's, where Mr. Tyler, gardener to R. Gosling, Esq., Bishop Stortford, won with medium-sized bunches, the berries and finish being very good. Mr. Coleman was placed second with small bunches but fine and excellently coloured berries, and Mr. Neighbour third. Mr. Kneller, Malshanger Park, staged very fine produce but not fully ripe, yet worthy of an extra prize. There were ten competitors. Six lots were staged in the Buckland Sweetwater class, but some of them were very poor, and the winning stands only moderate. Mr. Bungay, gardener to W. Smith, Esq., Herne Hill, Dulwich, was placed first; Mr. Beesley, gardener to R. Jones, Esq., Clapham Common, second; and Messrs. Lane & Son third. In the class for three bunches of any other kind there were sixteen competitors, and the excellence of the produce gave the Judges some trouble in making their awards. Messrs. Lane & Son were placed first for splendid Alicantes, weight about 3 lbs. and highly finished; Mr. Perks, gardener to C. W. Dusseldorff, Esq., Dorchester House, Sydenham, second with excellently finished bunches of Gros Guillaume about the same weight; and Mr. Peed, Roupell Park, third with good Alicantes—a capital class. The class for the heaviest bunch of any kind brought out eight competitors, but some of the bunches, as one of the Judges remarked, were as "ugly as sin." Mr. Dickson, gardener to J. Jardine, Esq., Arkleton, N.B., the renowned northern grower, easily won the first prize with, for him, a small and fairly good bunch of Syrian weighing 10 lbs. 10 ozs.; Mr. Peed was second with Gros Guillaume, 5 lbs. 8 ozs.; and Mr. Tyler third with a bunch weighing 5 lbs. 4 ozs. While this class is retained in southern schedules we must again note the omission of a class which is well responded to in the north—namely, for superior quality and high finish, the bunches not to weigh less than 1 lb. A class of this nature is well worthy of trial at the southern shows. In the miscellaneous class an extra prize was worthily awarded to Mr. Mowbray, gardener to the Earl of Leven and Melville, Fulmer, Slough, for a small but very full and regular bunch of Golden Champion. The berries were of great size, well finished, clear, and spotless, and reflected much credit on the grower. A good and fairly finished bunch of Gros Guillaume from Mr. James Lovey, gardener to G. Dixon, Esq., Gothenburgh, Sweden, was noticeable, considering the high northern latitude in which it was grown. The prizes offered by Mr. J. B. Pearson for Golden Queen were not awarded. A few bunches were staged, the best being from Messrs. Lane & Son, but they

were not considered of sufficient excellence to merit the rewards provided.

PINE APPLES.—Eighteen fruits were staged, some of them very fine, and none unworthy of the place they occupied. Mr. Webb won the premier prize in the class for Queens with a grand fruit weighing 6½ lbs. Mr. Day, Hillside, Newark, was placed second, weight of fruit 5 lbs. 1 oz.; and Mr. Miles third with a handsome well-conditioned fruit weighing 4½ lbs. In this class Mr. Lee, gardener to T. King, Esq., the renowned "Tom King" of history, exhibited a capital Queen weighing 4 lbs. 14 ozs., which had been grown in an 8-inch pot. In the class for any other variety Mr. Ross, gardener to C. Eyre, Esq., Welford Court, Newbury, had the premier place with Smooth Cayenne weighing about 6 lbs.; Mr. Pragnell, gardener to G. B. W. Digby, Esq., Sherborne Castle, Dorset, being placed second, weight 5½ lbs.; and Mr. Sandford, gardener to the Earl of Bective, third, weight of fruit 5 lbs. It was the best exhibition of Pines of the year.

PEACHES AND NECTARINES.—Eighteen dishes of Peaches were staged and fifteen dishes of Nectarines, nearly all of which were good, a few, however, being deficient in colour. Mr. Gibson, gardener to T. F. B. Atkinson, Esq., Halstead Place, Sevenoaks, was placed first in the class for Peaches with a dish named Lord Palmerston, which was certainly not correct; it was more like the yellow-fleshed American variety Crawford's Early. Mr. Frost, nurseryman, Maidstone, was second with Barrington; and Mr. J. Fry, gardener to L. J. Baker, Esq., Haydon Hall, Pinner, third with Princess of Wales. **Nectarines.**—Mr. A. Jameison, gardener to the Earl of Crawford, Haigh Hall, Wigan, gained the first prize with Prince of Wales, very good. Mr. S. Bolton, gardener to W. Tipping, Esq., Brasted Park, Sevenoaks, was second with Hunt's Tawny; and Mr. W. Cox, Madresfield Court, Great Malvern, third.

MELONS.—A rather extensive collection was forthcoming, several of the fruits being well shaped and netted, and were attractive in appearance. Twenty scarlet-fleshed and twenty-eight green-fleshed fruits were submitted to the Judges. Many of the Melons were of inferior flavour, and it was only after much and careful deliberation that the prizes were awarded. In the Scarlet-fleshed section Mr. Oliver Goldsmith, Polesden Lacey, Dorking, was awarded the first prize for Scarlet Gem; Mr. Coleman, Eastnor Castle, the second for Read's Scarlet; and Mr. Kneller, Malshanger Park, Basingstoke, third for Hero of Bath. In the Green-fleshed class the first prize was awarded to Mr. R. Adams, gardener to the Rev. T. D. Hudson, Frogmore Hall, near Hereford, for a "seedling;" the second prize to Mr. Coleman for Eastnor Castle, and the third to Mr. John Day, Norton Hall, Daventry.

PLUMS, CHERRIES, AND FIGS.—Plums.—The class for three dishes, distinct, six fruits of each, was represented by eight competitors. Mr. James Bolton was awarded the first prize for Golden Drop, Jefferson's, and Pond's Seedling. Mr. Staples, gardener to H. Oppenheim, Esq., Chipstead Place, Sevenoaks, second with Magnum Bonum, Pond's Seedling, and Golden Drop; and Mr. Fry, gardener to L. G. Baker, Esq., Haydon Hall, Pinner, third with Transparent Gage, Belgian Purple, and Jefferson's. Only two collections of Green Gages were exhibited. Mr. James Fry and Mr. W. Hall, gardener to W. Stevens, Esq., Springfield, Tulse Hill, were placed first and second respectively; and for a dish of any other kind the first prize was awarded to Mr. Staples for Coe's Golden Drop; second to Mr. J. Walker, nurseryman, Thame, Oxon, for Pond's Seedling; third to Mr. James Bolton for the same variety; an extra third prize was awarded to Mr. James Fry for a very fine dish of Transparent Gage. There were fifteen competitors in this class.

FIGS were remarkably fine, especially the first, second, and third-prize dishes, and to mark the excellence of the collections staged, of which there were twenty-four dishes, the Judges awarded two extra prizes. Mr. John Burnett, gardener to Mrs. Hope, The Deepdene, Dorking, was first with White Marseilles; Mr. W. Divers, gardener to W. Moore, Esq., Maidstone, second with Brown Turkey; Mr. W. Chisholm, gardener to R. C. Taylor, Esq., third also with Brown Turkey; extras to Mr. W. Chard and Mr. Rutland, gardener to the Duke of Richmond.

CHERRIES.—Mr. Thomas Jones, The Gardens, Elvetham Park, Wingfield, Hants, was placed first; Mr. T. N. Penfold, gardener to the Rev. Canon Bridges, Beddington, second; Mr. John Day, Norton Hall, third; and Mr. Miles, gardener to Lord Carington, extra third, all showing very fine Morellos.

APPLES AND PEARS.—Although the competition in the classes was not great, some splendid fruit, especially of kitchen Apples, was staged, and some large miscellaneous collections aided to make this section of the Show imposing. In the class for dessert Apples, three dishes distinct, six of each, there were four collections staged, and the first prize was awarded to Mr. Haycock, Barham Court, Maidstone, for excellent dishes of Ribston Pippin, Cox's Orange Pippin, and Melon Apple. Mr. Rutland was placed second for very fine King of the Pippins, Ribston Pippin, and Webb's Seedling; and Mr. Ross, Welford

Park, third; an extra third was awarded to Mr. J. Bolton. For three dishes of kitchen Apples there were the same number of competitors as in the previous class. Mr. Bowles, gardener to W. Skinner, E-q., Maidstone, gained the first prize with very fine Warner's King, Lord Suffield, and Stone Apple or Mapson's Seedling, very fine; Mr. Rutland the second for Warner's King, Lord Suffield, and very fine Blenheim Orange; Mr. Bailey, Amersham, third; extra thirds were awarded to Messrs. J. C. Goldsmith, Roots, and G. Goldsmith. Pears, three kinds, six of each, fifteen collections were staged. First, Mr. George Goldsmith, gardener to P. C. Hardwick, Esq., Holladen, Tonbridge, with Bauré d'Amans, Williams' Bon Chrétien, and Duchesse d'Angoulême; second, Mr. John Staples; third, Mr. Haycock; and extra thirds to Mr. Holden, gardener to W. Balston, Esq., Springfield, Maidstone, Kent; and Mr. James Dean, gardener to S. W. Gower, Esq., Titsey Park, Limpsfield. Extra prizes were awarded to Mr. T. Jones, The Royal Gardens, Frogmore, for thirty-six varieties of Pears and sixty varieties of Apples, excellent; to Mr. W. Paul, The Nurseries, Waltham Cross, for a collection of 120 dishes of Apples, a fine display; to Mr. Rutland, gardener to the Duke of Richmond and Gordon, for one dozen Calabrese Pears, very fine; to Mr. W. Wildsmith for twenty-five dishes of Pears and Apples; to Mr. L. A. Killick, Mount Pleasant, Langley, Maidstone, for a collection of one hundred varieties of Apples and Pears; to Mr. C. Ross, gardener to C. Eyre, Esq., Wilford Park, Newbury, for a fine collection of Apples and Pears, about seventy dishes; and to Messrs. Paul & Son, The Old Nurseries, Cheshunt, for an admirable collection of Apples in sixty varieties. Mr. Sleet, gardener to Mrs. Bailey, Norwood, also exhibited a good collection of twenty-four dishes of Apples.

Other extra prizes for fruit were awarded to Mr. G. W. Jobson, gardener to W. H. Stone, Esq., Herne Hill, for three Queen Pine Apples; to Mr. C. Haycock, Barham Court, for a good collection of Peaches, Nectarines, and Oranges; and to Mr. J. Peed, Rouppell Park Nurseries, for Vines in pots. Mr. Davy, gardener to J. Drew, Esq., Streatham, also exhibited creditable Vines bearing ripe fruit. Amongst other noteworthy exhibits we observed some very fine examples of Marie Louise, Doyenné du Comice, and General Tottleben Pears, which had been grown in Sweden and exhibited, with a bunch of Grapes above noticed, by Mr. Lovey. An attractive collection of twenty-four dishes of Tomatoes were exhibited from the Royal Horticultural Society's Gardens, Chiswick. The finest red was the "Old Red," the smoothest Hathaway's Excelsior. The best yellow was Carter's Green Gage—a very attractive collection.

CUT FLOWERS.

In ordinary years to have looked for a good show of cut flowers in London on the 20th of September would have been "a mockery, a delusion, and a snare;" but this has not been an ordinary year. All through the various seasons everything has been from a fortnight to three weeks late, and therefore not only were cut flowers shown in considerable quantities but also in excellent condition. The show of Dahlias, for instance, was not perhaps quite so extensive as we have seen it at the Palace, but probably a better lot of flowers was never staged, and it was a pleasure to find not only the veteran of Salisbury coming out in grand style, but that Mr. Turner is again entering the lists, and the Messrs. Rawlings of Romford occupying a prominent place, Mr. G. Rawlings having until very recently only exhibited seedlings. The terrible season in Scotland hindered the Scotch growers of Gladioli from competing. Messrs. Kelway & Son were, however, there in full force with splendid blooms, and there were other exhibitors, of whom more anon; and Asters were shown in beautiful order, while Roses were really grand for the season. There is evidently an attachment amongst horticulturists to the Crystal Palace, for the prizes were not large, yet they sufficed to bring together a considerable number of exhibitors.

In the class for forty-eight Dahlias the first prize was awarded to Mr. J. Keynes for a splendid box containing fine blooms of Henry Walton, Masterpiece, H. Glasscock, Seedling, Matilda, Perfection of Primroses, Dauntless, John McPherson, Vice-President, A. Oramond, Seedling, Herbert Turner, Thomas Goodwin, Criterion, Ethel Newcombe, J. N. Keynes, Rev. J. B. M. Camm, Queen of Beauties, J. Boston, Charles Leicester, Picotee, John Bennett, Queen's Messenger, Hon. S. Herbert, Seedling, John Standish, Cremona, James Service, Henry Bond, Mrs. Harris, Burgundy, Prince Arthur, Willie Eckford, Eccentric, Flag of Truce, Royal Queen, J. W. Lord, Prince of Prussia, Simon Neate, Flora Wyatt, John Wyatt, and Mrs. J. Downie. No finer box of Dahlias has ever been shown than this. Messrs. Rawlings, Bros., of Romford, were second with a very fine box. Conspicuous amongst the blooms were Baron Taunton, Acme of Perfection, Earl of Beaconsfield, and Countess of Pembroke. Mr. Charles Turner was third. Amongst his blooms the most noticeable were Mrs. Stoncomb, Miss Pressly, Toison d'Or, Silvia, Grand Duchess, Tiffany, and Barmid. In the class for twenty-four fancies Mr. Keynes was again first with a grand stand of the following:—Rev. J. B. M. Camm, Maid of Athens,

Herbert Purchas, Mrs. Sanders, Parrot, Letty Coles, Richard Dean, Mons. Chauvesse, Carnation, Fanny Sturt, Laura Haslam, Robert Burns, Henry Glasscock, Miss L. Large, Tippy Bob, Flora Wyatt, Hercules, Octoroon, Eccentric, Lucy Wyatt, Enchantress, Miss Bond, Samuel Bartlett, and a seedling. Mr. Seale of Sevenoaks was second, and Mr. C. Turner third. A large number of stands were shown by amateurs, and many of them in very fine condition. It would hardly be possible to find a finer twelve than those exhibited by Mr. Glasscock, for which he was awarded first prize; they were Henry Walton, James Cocker, Mrs. Harris, Thomas Goodwin, Ovid, Flag of Truce, Willie Eckford, Queen's Messenger, Prince Arthur, J. N. Keynes, Mrs. Standish, and Rev. Dr. Moffatt. Second prize went to Mr. Fewkes, Tyburn, Erdington, near Birmingham; and third to Mr. Slack, Queen Street, Chesterfield. In fancies Mr. Glasscock was again first with Mr. H. Glasscock, Miss L. Large, John Lambert, Flora Wyatt, Galatea, Parrot, Letty Coles, Queen of Spots, Grand Sultan, Viceroy, and Miss Boyd. Mr. W. Steer, Pope Street, Eltham, won second; and Mr. Fewkes third.

Of Asters there was a fine display, and I never remember to have seen finer French Asters than those exhibited by Messrs. Saltmarsh of Chelmsford; while Mr. Betteridge's Quilled Asters amply sustained his well-earned reputation as the first grower in England. In twenty-four French Asters Mr. H. Saltmarsh was first; Mr. John Morgan, gardener to Major Scott, Wray Park, Reigate, second; Mr. Lewis Morgan, Doods Road, Reigate, third. In twenty-four Quilled or German Asters Mr. Betteridge was first, Mr. Wheeler of Warminster second, and Mr. Gilkes third. In twelve Asters Mr. Brown was first, Mr. John Morgan second, and Mr. Lakin of Chipping Norton third.

Have Roses ever been shown in the month of September so good as on this occasion? I do not remember ever seeing such a box as that of Mr. Corp's at this season; not only were the Roses large and fresh, but they were every one of them in *character*, so that there was no difficulty in determining what they were. Messrs. Paul & Sons' and Mr. Harrison's of Darlington were also very fine, but Mr. Corp's was a long way ahead, and is another triumph for the seedling Briar as affording late blooms. But it must be remembered that these were cut from maidens. They were (twenty-four trebles) Marquise de Liparis, Louis Van Houtte, Camille Bernardin, Maréchal Niel, Sénateur Vaisse, Comtesse de Serenyi, Niphetos, Madame Charles Wood, La France, Etienne Levet, Marie Baumann, Marie Van Houtte, Paul Neyron, Sir Garnet Wolseley, Madame Victor Verdier, Capitaine Christy, Prince Camille de Rohan, Devienne Lamy, M. Alice Dureau, Pierre Notting, Baronne de Rothschild, Alfred Colomb, Emilie Hausburg, and Mons. Boncenne. Messrs. Paul and Son were a good second; and Mr. Harrison, or rather his representatives, third with a good boxful of too full-blown flowers, with probably the best treble of Madame Willermoz ever shown.

In Gladioli the place of honour must be given to Messrs. Kelway & Son, who exhibited a stand of thirty-six blooms of their own seedlings of surpassing excellence; the flowers were all large, the spikes grand, and the colouring fresh and bright. Conspicuous among them were Duchess of Edinburgh, a lilac-rose flower of great excellence; the other varieties were also splendid. This stand was not exhibited for competition. In the class for thirty-six Mr. George Wheeler of Warminster was first. Amongst his flowers there were a large number of seedlings and some good spikes of named flowers, especially Adolphe Brongniart and Leandre. Mr. Coppin was second with a very indifferent stand. In the class for twenty-four the Rev. H. H. Dombrohn was first with a stand in which were some fine spikes, while others told of the straits to which he was driven to make up a stand of twenty-four on September 20th. They were Marchioness of Lothian, Meyerbeer, Mignon, Antiope, Zampa, Norma, Eugène Scribe, Etendard, Horace Vernet, Leda, Christophe Colomb, Venus, Panorama, Chloris, Murillo, Lydie, Adolphe Brongniart, Amaranth, Frametta, Leandre, and Psyche. Mr. Julius Sladden of Chipping Norton was second.

In the miscellaneous class some admirable stands of Roses were shown by Messrs. William Paul & Son, Mr. Cranston, Mr. Turner, and Mr. Corp. Amongst Mr. W. Paul's was a very promising seedling called Pride of Waltham, as shown something between Mdlle. Eugénie Verdier and Madame Marie Cointet, also Hero of Waltham. Mr. Turner had a beautiful collection of bouquet Dahlias consisting of Flora Macdonald, yellow; Startler, lilac-tipped; Little Arthur, orange; White Aster, white; Baby Waite, lilac; Louis Rodani, deep lilac; Crimson Beauty, dark crimson; Vesta, white; Amelie Barbier, white-tipped; and Little Dear, white-tipped. He had also some baskets of charming plants of Tree or Perpetual-flowering Carnations, comprising Sir Garnet Wolseley, Vestal, Balacava, Coronation, Lady of Avenel, white; Osman Pasha, red; Guelder Rose, white; Amateur, light crimson; Mazepa, flaked; and Rose Perfection. Extra prizes were awarded to the several exhibitors.

First-class certificates were awarded to Mr. C. Turner for seedling Dahlias Charles Lidgard and Lady Golithly, and for Potato Schoolmaster; to Messrs. Kelway & Sons, Langport, Somerset, for seedling Gladioli Marcianus, John Laing, Venulus,

and Richard Dean; to the executors of the late Mr. Harrison, Catterick Bridge, Yorkshire, for seedling Dahlia Rosy Circle; to Mr. John Keynes, Salisbury, for seedling Dahlias Robert Burns, Dictator, Emulator, and Marion; to Mr. J. Betteridge, Aster Nursery, Chipping Norton, for seedling Quilled Aster Novelty; and to Messrs. Rawlings Brothers, Old Church, Romford, Essex, for seedling Dahlia James Willing.

It will thus be seen that for all lovers of florists' flowers there was something worth looking at, and hopes were expressed by many that this might be but the commencement of a revival of good autumn shows at the Crystal Palace. The authorities have been sounded on the subject, and I am hopeful that something may be done.—D., *Deal*.

VEGETABLES.

An extensive and excellent display was provided, the finest that has been seen since Messrs. Carter's fifty-guinea cup was won by Mr. Gilbert at South Kensington. Only two classes were provided, but the competition was good and the produce was of superior quality. In the class for the "best collection of vegetables, to be shown in shallow boxes 3 feet wide," there were eleven competitors, and as the boxes were neither restricted as to length nor limited as to number, some of the collections were of great extent and had quite an imposing appearance.

The awarding of the prizes occupied a considerable time, but eventually the honours fell, first to Mr. Pragnell, Sherborne Castle, for an extensive collection of remarkable quality; second to Mr. Chaff, gardener to C. H. Goschen, Esq., Ballards, Addington, for a collection consisting of fifty-four varieties; and third to Mr. Durant, 4, St. George's Terrace, Hurstpierpoint, for a small collection, but of first-rate quality. Every kind of vegetable grown in gardens was represented in the above collections, and nearly all in the first order of excellence.

In the cottagers' class for a collection of not less than six distinct kinds there were thirteen competitors, and much really superior produce was staged. Mr. Durant won the first place with a collection of splendid quality; Mr. W. Patchill, Bandon Hill, Beddington, Croydon, had the second; and Mr. Brookes, Bandon Hill, the third prizes. Considering the small amount of the prizes and the great merit of the collections, the authorities would not have erred had they awarded an extra prize or two in this class.

Mr. Walker, nurseryman, Thame, Oxon, was worthily awarded an extra prize for a collection of his "exhibition" Onion. None of the bulbs were less than 14 inches in circumference, and they were bright in colour, firm, and of handsome shape.

Good as other sections of the Exhibition were we do not hesitate saying that the vegetables were one of the finest features of the Show.

This was the first Show at the Palace held under the sole management of Mr. Thomson, who exerted himself to the utmost to make it a success, and succeeded.

NOVELTIES IN THE ROYAL GARDENS, KEW.

On the wall of the herbaceous ground we were much pleased with a fine example of *Clematis Davidiana*, not long introduced, and received here from Paris. It is a native of China, and similar in habit to *C. tubulosa*, from which, however, it is abundantly distinct. The flowers are produced in large clusters in the axil of every leaf to the extreme ends of the year's growth. The terminal clusters are many of them more than 3 inches in diameter, having about fifty expanded flowers with many buds concealed beneath. Their colour is porcelain blue, each flower resembling the pip of a Hyacinth. This species, unlike the majority, has no tendency to climb, the branches are stiff and erect, bearing broad, ample, dark green leaves.

Crinum Moorei has flowered in the cool division of the new range, and while being one of the finest of the genus, is also nearly if not quite hardy, and well suited for greenhouse cultivation. The flowers are of large size with broad segments, varying in colour from deep pink to nearly pure white. It is very desirable on account of its decorative value, and is very easily cultivated. It is supposed to have come from the interior of Natal, but we believe it may also be found further north. Several nearly allied forms are native of Africa.

Mr. Bull's beautiful *Eucharis candida* has flowered in the Begonia house. It is the plant to which the name truly belongs. That often usurping it is *Caliphuria subdentata*, inferior in more than one respect, in particular that it may not flower for years. *Eucharis candida* is from the United States of Columbia. It is similar in habit to *E. grandiflora*, but the flowers, though smaller, are much more elegant in form. The scape is about 2 feet high, bearing several flowers, the tube 2 inches long, perianth 2 inches across, with a funnel-shaped corona. It requires the cultivation of its well known ally, and several bulbs should be grown in a pot.

Gloriosa superba var. *grandiflora* is a splendid form flowering in the Stove. It is quite distinct from *G. superba* and of much larger size; the segments are clear yellow near the base, passing above into deep crimson. It is much superior in colour and also in the beautiful marginal undulations. *Chirita sinensis* has here been very attractive. It has a very short stem; the leaves are thick and fleshy, veined with white, and spreading in a rosette completely hide the pot. The flowers are pale lilac, and profusely produced on stems just above the foliage.

Among the Orchids *Angræcum arcuatum* has flowered in this collection for the first time. The flowers are white, sweetly scented, with sepals and petals recurving gracefully and produced several together on a short spike. *Vanda lamellata* is interesting in appearance and very free-blooming, but without the showiness of its better known relatives. *Epidendrum radiatum*, allied to *E. cochlearatum*, has a large shell-shaped lip with radiating purple lines. *E. ibaguense* is ornamental with lilac flowers. *E. scriptum* has peculiar insect-like blossoms with petals reduced in size to mere threads. *Masdevallia Davisii* and *M. Peristeria* represent the ornamental and curious of this genus. The former is bright yellow, in the form of *M. Lindenii* or *Harryana*, and the latter of brownish colour seated low down among the leaves. *Lælia Dayi* is extremely pretty growing in a basket; the lip forms a tube with rich purple mouth. *L. xanthina* is also in flower. Several specimens of *Cattleya crispata* in good varieties have just finished a fine display. *Dendrobium Johannis* is one of the curious species from Australia. It has long erect stems, bearing yellowish brown flowers with sepals and petals twisted much in the same way as *D. tortile*, but unfortunately without the fine colour of that species. *Miltonia candida* var. *grandiflora* has a beautiful white lip, well contrasted with orange and brown sepals and petals. *M. spectabilis* and *M. Regnellii* are also in bloom. *Compæretia coccinea* is pretty with flowers of Oncidium shape and colour, which the name indicates. The more ornamental Orchids, besides some already mentioned, include *Dendrobium Gibsonii*, *D. Bensonii* and *D. sanguineolentum*, *Stanhopea graveolens*, *Mesospinidium vulcanicum*, several *Oncidiums*—*O. Kramerii*, *Wentworthianum* and others, *Calanthe Masuca*, *Cypripedium superbiens* and *C. Sedeni*.

Rhodochiton volubile has flowered magnificently during the present season in the Temperate house, its slender stems hang down and form quite a curtain of flowers and foliage. *Campanula pyramidalis* and the variety *alba* are here very effective, growing with several stems from a pot. *Solanum venustum* is a graceful and slender climber flowering in the Palm house. The flowers are pale lavender in colour, and hang in large panicles. It is extremely rare, and though grown for some time in the Royal Gardens may be considered new. *Torenia Fournieri* continues to flower with great freedom in the Lily house, and has the advantage of shrubby growth so as not to require a single tie.

In the Stove are two very sweetly scented plants, *Tinnæa æthiopica* and *Coffæa travancorensis*. The flowers of the former are of the peculiar brown colour often associated with delicious odour, as in *Boronia megastigma*; the latter is no less attractive from its multitude of small white flowers than its delicious perfume, which somewhat resembles *Gardenia*. *Juanullosa parasitica* is considerably ornamental, having small Datura-like flowers with both orange calyx and corolla. The prettiest of the species of Balsams is perhaps *Impatiens Jerdoniae*, now profusely flowering in the Begonia house in a basket. It is scarcely 6 inches in height, and with pretty foliage bears an immense number of crimson and yellow flowers of peculiar form. The rare *Spigelia splendens* is just going out of bloom.

The tuberous-rooted Begonias are in great display, and their showy colours have recently been contrasted with the white flowers of *Campanula Vidalii*, producing a fine effect. *B. Pearcei* with bright yellow flowers is one of the most attractive, and with cool treatment is infinitely finer than when, as formerly, grown with the warm shrubby species. *Allium pulchellum* is very pretty on the rockwork. *Mecynopsis Wallichii* has long been in bloom and is just passing off. *Phygelius capensis* has recently been highly effective on the wall of the Orchid house, where it has surprisingly developed.

YELLOW ALPINE AURICULA.—The fine variety of this, to which Mr. Llewelyn refers as having been seen by him on the high Alps of Switzerland, is in all probability *P. auricula marginata*. The flowers of this quite answer the description given by Mr. Llewelyn, and no show Auricula that I am acquainted

with has such handsomely-powdered foliage at this season of the year. I obtained my plants from Messrs. Backhouse & Son, York.—RICHARD DEAN, *Ealing*.

ANEMONE JAPONICA ALBA.

AMONGST autumn flowers there are few which surpass this beautiful Anemone, and if grown in deep rich soil it will continue to produce a good succession of flowers for a long time. It is an herbaceous plant, throwing up its flower stems about the end of August, and is in full bloom and beauty by the middle of September. Two or three-year-old plants will produce a large quantity of flowers of pure white colour, averaging $1\frac{1}{2}$ inch in diameter, which are very useful for cutting for indoor decoration, especially at a time when white flowers of this size and lasting property are not very plentiful.



Fig. 49.—*Anemone japonica alba*.

It is readily increased by offsets, which spring up, as if by runners, near the base of the plant. If these are taken up with a few roots attached to each, and planted in nursery rows 6 inches apart any time this month, they will make flowering plants by next September, and the year following will be very good. Plants may also be increased by cuttings of the roots, placing them in pots in gentle heat. A mixed flower border, when it is backed up by evergreens, is a good situation for the plants, provided they are not overshadowed by large trees. Placing four or five good plants in a clump, or planted in a long row, they have a very telling effect. Good examples of this plant may be seen at the present time in Battersea Park near the south-western entrance, with shrubs in the background, and various flowering plants, such as Dahlias, Chrysanthemums, &c., with plenty of Heliotropes, scarlet and pink Pelargoniums, good patches of Mignonette, double Pyrethrums, and Carnations mixed with and in front of it, with good bands of blue Lobelia and Golden Chickweed (*Stellaria graminea aurea*) at the front of the border, and the effect is very fine. This *Anemone* is one of the most effective and conspicuous flowering

plants for autumn decoration. *Anemone japonica* with its pink flowers is a good companion plant to the above. It is of the same habit and height—2 feet. Mr. Ware, Tottenham, considers *Anemone japonica alba* one of the finest herbaceous plants in his large collection. It is also admirably suited for cultivation in pots for the decoration of the conservatory during the autumn months, where few plants have a finer effect.—A. HARDING.

CARDIFF CASTLE,

THE SEAT OF THE MARQUIS OF BUTE.

THE name is derived from the British *Caer*, a castle, and *daf*, the river Daf—literally, "The Castle of the Daf." It was built by Morgan Hen as far back as early in the tenth century, but was modernised by subsequent owners, especially by the Bute family, its present possessors.

Morgan is said to have begun building the town of Cardiff on the ruins of an old town built by Didi Gower, a Roman conqueror, and destroyed by the Saxons. Many alterations and improvements have taken place since the time we speak of, and the present Marquis is persevering with the restoration of the most decayed parts, but for all this much of its ancient grandeur is still preserved. Within the Castle enclosure stands the ruins of a keep. The Rev. Thomas Rees, who wrote "The Beauties of Glamorgan," after depreciating the modernising of some parts of the Castle, is delighted with the ancient ditch which surrounded the keep being filled up and made into a green lawn. Along with the many improvements in the grounds of late years this ditch has again been dug out to the depth of 10 or 12 feet and about double that width, which carries the imagination back to the grandest era of feudal days. Close to the gate by which the Court is entered there are the ruins of what is called the "Black Tower." Tradition assigns this as the prison of Robert Curthose, Duke of Normandy, son of William the Conqueror, who died here in the year 1133, after being imprisoned for thirty-six years.

Few places surpass Cardiff Castle in historic interest of the past, and very few will exceed it in gardening renown of the future. No lord ever entered the Castle who did more or was inclined to do more than the present noble proprietor, and it would be difficult to find one better able to carry out improvements than Mr. Pettigrew; but these few notes must not be taken as giving an account anything like equal to what will be afforded in a few years hence. This particularly applies to the pleasure grounds, and my remarks on these for the present will be brief.

The grounds are extensive; many trees have been planted in them lately, and groups and long borders of various kinds of choice shrubs formed, lawns laid down, and narrow and broad walks made. A stone-crushing machine is employed to prepare the metal for these walks, and everything so far as is completed is kept in good order. This applies to the ground close to the Castle. The kitchen gardens and another large piece of pleasure ground is separated from this by a canal and a turnpike road. Crossing this road from the Castle we enter by a door, close to which stands Mr. Pettigrew's house, and a little to the right from this lies one of the kitchen gardens and the principal ranges of glass.

The houses are not arranged in long rows as in some places, but some here and some there; all are, however, convenient for working and heating. The first two houses we enter are vineries 40 feet long each and 16 feet wide. Gros Colman planted three years ago is doing remarkably well here. It is common to say the berries of this variety are as large as Green Gage Plums; but here it is not too much to say they are as large as Kirk's Plum, and surpass in this respect the best I have seen. Some time ago there was a good deal said in the Journal about this Grape; there need be no dispute about the size and fine appearance of its berries, and when thoroughly ripened it will bear comparison with many others. One Vine of Madresfield Court Black Muscat in this house was bearing exceedingly fine bunches. Black Hamburgs were also a most creditable lot. The second division is wholly filled with Black Hamburgs. One Vine is being extended, and in a year or two will fill all this half, Mr. Pettigrew approving of the extension system of Vine-growing. The next house is a large greenhouse, well filled with all kinds of plants belonging to this department. Further along there is a Peach house 60 feet by 14. This house was erected by Messrs. Boyd of Paisley a few years ago. All the rafters and principal bearings are iron; Mr. Pettigrew is delighted with it. It is a lean-to like those

previously described, and the trees are planted along the front. It is only two years since they were planted, and the wood made both this and last year is splendid. The principal sorts here are Barrington, Noblesse, Royal George, and Bellegarde. These ranges are all facing the south.

There are two span-roofed houses with their ends facing north and south. Each is 60 feet long and 30 feet wide. Both are divided in the centre. One division is plant-stove and Melon house combined; plants are grown in the centre bed and on one of the side shelves. There is a narrow bed on the opposite side to this, and here Melons are grown in summer. The Melons here are treated differently to what they generally are. They are watered constantly at the root from the time they are planted until all the fruit is cut. That this is a good plan the plants and fruit bore strong indications. At the time of our visit the fruit was all ripe; many of them had

been cut that morning. The leaves and stems were spotless green and vigorous; and as to the flavour of the fruit, your report of the Cardiff Show states that Mr. Pettigrew was first for the finest-flavoured Melon, and this same fruit was cut from the plants in the damp soil. Mr. Pettigrew has a green-fleshed seedling of his own raising, named Cardiff Castle, which he grows extensively for its large size and superior flavour.

The next division of this house is Pine stove and Cucumber house combined. Pines are grown in the centre bed and Cucumbers at the sides. Some excellent Queens were swelling here, and robust young Smooth Cayennes gave promise of bearing heavy fruit. Winter Cucumbers were newly planted. Telegraph is the favourite here. The next house, the same size as this and in two divisions, is wholly devoted to Grapes. All the Vines are young here, many of them not in full bear-

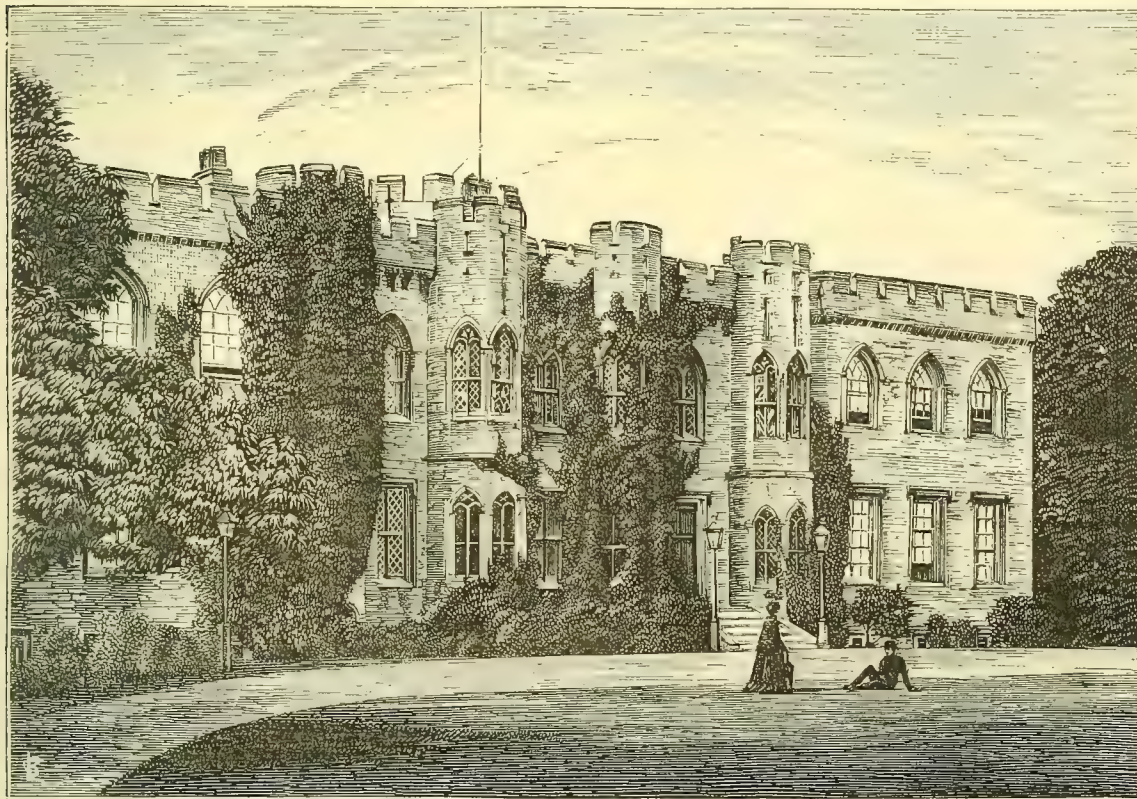


Fig. 50.—CARDIFF CASTLE.

ing yet. Their health and strength is all that need be desired, and the fruit they are bearing this year is fine in every respect. Black Hamburgh and Black Alicante are the leading sorts in one division, Foster's Seedling and Muscat of Alexandria in the other. One side is wholly planted with Foster's. Mr. Pettigrew speaks and thinks highly of this Grape, and certainly he manages it well. Other pits and frames are devoted to young Pines, Melons, Cucumbers, &c.

Bottom heat is, as a rule, considered absolutely necessary to mature both Melons and Cucumbers, but Melons especially. In a pit here, with a bed in the centre and a row of hot-water pipes around the outside of it, there are both Melons and Cucumbers grown without bottom heat. There are no means of heating the bottom, and no fermenting material of any kind is put in—nothing but the soil, and that is not renewed every year. Last year Melons and Cucumbers were grown in the same place; the soil in which they were was never cleared out. Young plants were again planted in it this season, and the produce, both in point of quantity and quality, was as fine as it possibly could be in the best heated structure. The Melons are watered here until they are ripe, the same as in the house, and yet, although there is no bottom heat to dry up the soil quickly, they never wither up or die off just before

the fruit is ripe, as is often the case. But be it understood Mr. Pettigrew does not hold this as the very best way of growing Melons and Cucumbers.

Passing into the kitchen garden, three acres in extent, the eye is most attracted with the gay flower borders, but these soon lose interest in admiring the fine crops of vegetables. Many of the fruit trees here are young, and all bearing good crops. Outside the walls there are sheds and other such necessities. In the soil yard there is a large heap of decayed vegetables, leaves, grass, and other refuse. Vegetable Marrows are grown on this. At the time they are planted bits of Mushroom spawn are dibbled in all over the heap. These soon move, no doubt with the slight heat that must come from such a compost, and now Mushrooms are coming up thick under the shade of the Vegetable Marrow leaves.

About five minutes' walk across a field from this garden there is another new kitchen garden five acres in extent. This garden is in the corner of a picturesque field, where a high brick wall would not have looked well from the Castle or corresponded with other surroundings. There is, therefore, no wall round this garden, but it is surrounded with a high ornamental iron fence, which makes it quite in character with the park. It might be thought this would be an exposed garden,

having no wall for shelter, but everything appears to do well in it, and the crop of Apples and other fruits here is first-rate, which, unfortunately, is more than can be said of every garden this season. All the vegetables here show the excellency of the soil and management. "Winter stuff" of various kind form the chief crops, and the demand must be great indeed that will exceed such a supply.

As yet there is hardly any flower garden at Cardiff Castle, but this will be in proportion to the rest in a few years. A few beds are laid down on grass not far from Mr. Pettigrew's house. The *Tory Viola*, a splendid purple, raised by Messrs. Dicksons & Co. a few years ago, is very effective here. *Dumfries House Seedling Tropæolum*, raised by Mr. Pettigrew when gardener at a place of this name belonging to the Marquis of Bute in Ayrshire, is grown in quantity against some of the walls. It is a quick climber, and becomes a perfect sheet of orange-scarlet flowers.

There is only one thing to be regretted about Cardiff Castle and the gardens, and that is their closeness to the town of Cardiff, which deprives the place of that seclusion so desirable about such a noble seat. A stone might be thrown out of the Castle windows on to some of the streets, and the kitchen garden containing the glass houses is so close to the town houses that many of the windows overlook the garden.—VISITOR.

ATTAR OF ROSES.

OUR Naval Correspondent, who has been stationed with the Turkish army engaged under Suleiman Pasha in attacking the Russians in the Shipka Pass, takes the opportunity of a pause in the conflict to discuss the very different subject of Rose water. He writes from Kezanlik :—

"Perhaps there are few more fertile valleys in Europe than this once flourishing valley of the Tundja, which lies between the greater and lesser ranges of the Balkans, and stretches east and west far upwards of 130 miles. Although the nature of the soil naturally varies very considerably in such an extensive tract of country, still there is no one part that can be called bad or unprofitable, and, according to the locality, be it sandy slope with a southern exposure, as is the case on the north side of the valley, or alluvial lands in the lower parts, which in winter are converted into swamp by the swollen mountain streams, so whatever toil or labour the husbandman bestows he is repaid tenfold. To climb some of the lower ranges on the north side, which generally rise rather abruptly in rocky terraces immediately behind the villages, and look down on the varied colours of different cultivations, is a great treat for those to whom diversity in landscape has a charm. On the highest slopes grow the hardy Vines with their brilliant green leaves festooning themselves from one short pole to another, or trailing over the ground in the more stony places; as they do on the Lebanon. Next come the duller patches of Tobacco, at this season bearing the rose-coloured flower which spreads a flush over the whole field. Intermingled with these fields are the fields of Roses, the glory of the valley of the Tundja, growing in even rows, forming long lines like hedges, 4 or 5 feet high. Below these again are Wheat and Barley, with strips of pasture-land, dark groves of Elm trees, red-roofed villages, and white minarets.

"As is generally known, this district is the most fertile in the Turkish empire for the production of attar of Roses; and, as little is known of this curious and interesting process, a few words as to how the Roses are grown and how the essence is extracted may be permitted. This district, which is called the district of Kezanlik, produces annually more of the essence than all the other Rose-growing districts of Turkey put together. The whole quantity produced in Turkey may be roughly estimated at 3600 lbs. annually, of which 1800 lbs. are manufactured in this district, and the rest in seven other districts, all alike in the Sandjak, or Province, of Philippopolis.

"The soil best suited for the cultivation of Roses is what we find in such large tracts of land in this neighbourhood—namely, sandy slopes with a southern exposure, and the method of planting and rearing is as follows: In spring and autumn parallel trenches a few inches deep are dug in the soil selected about 1½ yard apart, and in these trenches are placed short branches taken from an old Rose tree. These must not be cut off the old plant, but torn off, so as to carry with them part of the peel or bark of the plant. They are placed in the trench so as to form a continuous line, and the earth with some manure is then filled in. In about six months small plants begin to show above the ground, but bear no Roses until the second year, and these are of no great value. The third year's crop is fit for the production of the essence, and by the fifth year the plant is at its best. It remains in this condition for several years, but after about fourteen or fifteen years the quality of the Roses has so deteriorated and the bushes grown so thick that replanting is necessary. By this time they may be 6 feet high. The Rose tree is a very

delicate plant and requires constant care. The value of the crop varies with the attention that is paid to them, the care in turning the earth, which has to be done three or four times a year, and the quality of the manure used. The frosts of winter do not affect the plants if they are continuous, but any sudden changes, especially towards spring, are most fatal. Hoar frost and fog when the first buds are appearing are also much dreaded. About the way of trimming the plants I could gather no information, but from their appearance it would seem that very little is done in this direction except cutting away dead wood. Budding appears quite unknown to them, nor would there be much use for this delicate art. There are few industries requiring more practical knowledge than the production of attar of Roses. When we take into consideration the immense amount of labour and land that is required to produce a very small bottle of this precious liquid, it will not surprise one to see how few people engage in the cultivation of the Rose. As April draws to an end the cultivator begins carefully studying his field, almost counting the buds, and scrutinising the heavens for any change in the weather which may necessitate his beginning his *récolte* earlier. A sudden burst of warm weather may bring his buds forward so rapidly in a day or two that he stands in danger of losing his whole crop because he cannot gather it all in; or a hoar frost, though not killing the buds, may take all the scent out of them and make his crop comparatively valueless. As the crop of flowers advances towards harvest time the cultivator has to make a kind of rough estimate of the quantity of buds and flowers that he must gather each day. This is limited by the amount of labour he can command to pick the young fresh-blown Roses before sunrise and by the quantity he can distil at one time, for the sun soon dispels the scent, and the flowers must go immediately into the still. Thus supposing he sees or judges that it will take ten days for the whole crop to come to perfection, he must in the first morning gather a tenth of his crop and proceed to distil that quantity, and this will explain why a sudden burst of heat forcing on the whole crop is so disadvantageous. It also appears that any great heat during the time of distillation causes the quality of the essence to deteriorate. The distillation is carried on in the most primitive manner, and yet seems to answer the purpose as effectually as would any more complicated or scientific method. The still itself in form resembles a huge copper bottle, with a neck consisting of a smaller chamber. The height of this still is about 5 feet. From the top a pipe passes into a receiver, through which the distilled water passes. Into this still is placed a quantity of Roses with ten times as much water, and the distillation is carried on until the amount of liquid in the receiver equals in weight the amount of Roses in the still. The Roses are then thrown out and a fresh quantity put in, and the process is repeated until all the water is evaporated, when a fresh operation begins. The liquid thus obtained is Rose water, which is again subjected to distillation, when the real essence is produced in the form of a pale yellow oil. The quantity of essence that a given number of Roses will produce is very uncertain, but a rough average may be taken that to produce 1 lb. weight of the essence it requires the astonishing weight of 28 cwt.

"From this may be gathered some idea of the enormous amount of land occupied and labour bestowed on the cultivation of Roses in this district alone, which annually produces upwards of 1800 lbs. to 2000 lbs. weight of the essence. There are no large farmers of Roses. The rural population have the manufacture entirely in their own hands, and every man that has a small field of Roses has also his distilling apparatus. Very often among the poorer Bulgarians this constitutes their entire capital, with a small field of Maize, a few Plum trees, and a few Vines.

"In this way the inhabitants of the valley of the Tundja passed their lives, in that degree of ease which Turkish extortion and every kind of bad government would permit them, and in comparison with the poor Irish or the country clod in England they were well off and happy.

"But a misfortune of a terrible kind has overtaken Bulgarian and Turk alike, and in the whole length and breadth of that exquisite valley there is hardly a house standing or a crop that has not been destroyed. I am sitting under the verandah of one of the two remaining houses of a large village called Chourloo, about two miles from the entrance of the Shipka Pass. In this village upwards of eighty Turkish women and children were massacred by Bulgarians, and my host, with Turkish *sang froid*, is sitting smoking cross-legged under a pergola of Vines, about 10 feet from a small heap of earth where his wife lies buried. She was massacred a day or two before the army of Suleiman arrived. Behind the house, thrown on to the manure heap, and picked as clean as bones can be by crows and dogs, lies the skeleton of his uncle. Ten minutes' ride carries you to a Bulgarian village, where exactly the same sights are to be seen, though in the proportion of about ten to one of victims. The most impartial cannot but admit that the Bulgarians have suffered far more than the Mahomedan population.

"In pondering over the future of this country, one of the

most difficult matters for solution is the re-distribution of property. To find the rightful owner in cases where a whole family have been destroyed and settle such never-ending conflict of claims will find employment for generations of Turkish lawyers, if the fate of the war leaves it to them to decide; while the additional complication may arise of confiscation for the Bulgarians who have joined the Russians and have become *de facto* rebels, or for the Turks who may be mulcted in their land for indemnities to Bulgarians whose property they have destroyed. Whichever side gains the day, it will open a fruitful field for roguery and rapacity, and the unhappy dwellers in these lands will by no means see their troubles terminate with the war."—(Times.)

NOTES AND GLEANINGS.

THE INTERNATIONAL POTATO EXHIBITION will be held in the Royal Aquarium on Wednesday, Thursday, and Friday next. Considering the peculiarities of the season, the Exhibition should, and we do not doubt will, prove especially useful as illustrative of the relative value of varieties, and methods of cultivation. It is certain that good cultivation is in some degree preventive of disease, for in the worst Potato years the Potato fanciers lift good sound crops.

— THE finest GOLDEN CHAMPION GRAPES we have yet seen have been grown this year by Mr. Mowbray, gardener to the Earl of Leven and Melville at Fulmer, Bucks. A Vine is planted at the back of the vinery and trained a few feet down the roof. It produced splendid fruit last year, and this year it has produced bunches as regular as any Black Hamburgs, while some of the berries measured fully $4\frac{1}{2}$ inches in circumference. They were perfectly free from spot, were of a clear amber colour, and of excellent flavour. They would have gladdened the eyes of Mr. Thomson as they did those of Mr. Solomon, the eminent fruiterer of Covent Garden, who pronounced them superior even to the Clovenfords produce. A small bunch from this Vine was awarded an extra prize at the Crystal Palace Show.

— MR. DOBREE, The Priory, Wellington, Somerset, had the first prize in the amateurs' class for twenty-four DAHLIAS at the Alexandra Show. The other prize-winners in that class were named in our report. In the class for twelve Fancy Dahlias the prizes were awarded to Messrs. Keynes, Dobree, Glascock, Rawlings Brothers, and Saltmarsh & Sons.

— IN last week's Journal a correspondent asks about BEECH-NUTS. We have here some fine specimens of Beeches; they are so loaded with nuts that they have assumed quite a pendant habit, which adds quite a charm to their noble appearance. I never saw them so loaded before; the squirrels are having a jolly time of it among them, but that does not prevent the rascals visiting our choice Filbert plantations.—NORTH YORK.

— ON the 18th inst. the Master (Mr. Samuel Williams), the Wardens (Mr. Henry Bollen and Mr. Alderman Knight), and the Court of the Fruiterers' Company, waited by appointment upon the Lord Mayor in the saloon of the Mansion House, and presented him with an excellent assortment of the choicest FRUITS of the season, including Grapes, Peaches, Apples, Pears, Melons, and Green Gages. Formerly the gift consisted of twelve bushels of Apples, which, neatly packed in clean baskets and covered with linen napkins, were brought from Farringdon Market by porters, escorted by the beadle of the Company, to the Mansion House. On its arrival in former days the Lady Mayoress used to direct the housekeeper to take charge of the fruit and put a bottle of wine in each basket for the use of the carriers, who were "regaled" with a dinner. At the ceremony on the 18th the Lord Mayor was accompanied by Lord Elcho, M.P., Mr. Scott Russell, the Rev. R. J. Simpson, Sir John Bennett, and other gentlemen who had been with him on public business. The Master of the Company in appropriate terms offered the fruit for the Lord Mayor's acceptance, and his lordship suitably acknowledged the gift, and, following the custom, invited the Company to dine with him at the Mansion House later in the year. James I. in the year 1605 instituted the Fruiterers' Company, and granted them arms—these are the Tree of Knowledge entwined by a serpent, and Adam and Eve standing one on each side. The Company's motto is "*Deus dat incrementum*," God gives the increase.

— THE BERKHAMPTSTEAD COTTAGE GARDEN SOCIETY held their Annual Exhibition of flowers, fruit, and vegetables at Berkhamptstead on the 17th inst., under the presidency of

Earl Brownlow. During the afternoon Mr. John Hunter delivered a lecture on bee-culture, accompanied by practical demonstrations with living bees, which much interested the large company assembled.

NOTES ON VILLA AND SUBURBAN GARDENING.

THE changing of colour of Virginian Creepers and various other trees and shrubs which precedes the fall of the leaf only tells too plainly that autumn is near at hand. We must prepare ourselves to meet it. Greenhouses and other structures that have been emptied of their occupants for the purpose of hardening-off or for enabling such houses to have a complete overhaul in the way of repairing, painting, and whitewashing, ought now to be completed, and the plants be returned at once to their various homes.

Cuttings of Geraniums and other plants likely to suffer by frost, and which were recommended some time since to be placed out of doors, will require to be watched. In the case of sudden frost any temporary covering will protect them, but potting them singly in small 60's and housing them must be proceeded with as rapidly as possible. It frequently happens that we have just sufficient frost on one or more nights to turn the more tender plants black and useless, and afterwards a short period of warm and fine weather. We have already heard of frost occurring in several localities, but where French Beans and Vegetable Marrows have not suffered a timely covering over these on unfavourable nights will prolong their supply.

Any Alternantheras or other bedding plants required as stock plants to furnish cuttings in the spring should be taken up, potted, and placed in a warm house at once; but every effort should be made to prolong the attractive beauty of the flower garden for a little while yet by occasionally running the mowing machine over the lawns, picking off decayed flower trusses, clipping the edges of the beds, and sweeping up the wormcasts, which are becoming troublesome.

Note any errors in the arrangement of your flower beds that you wish to remedy for another season before it is too late.

Alterations and making of new borders, beds, and plantations can be now commenced; the weather of late has been very favourable to the lifting and transplanting of all shrubs and for the relaying of turf. It too frequently happens that in laying out villa gardens a great variety of shrubs are planted. Sometimes good specimen plants are planted amongst Laurels and other commoner shrubs; this is a mistake, and nearly always when a garden is first laid out the shrubberies are planted thickly so as to give effect at once. Wherever this is done the shrubs will require timely thinning, otherwise they will grow into each other and become a tangled mass. A judicious thinning becomes absolutely necessary, and if there is room in other parts of the lawn or grounds we advise preparing other borders to receive them, and if this is begun at once the transplanted shrubs will have a chance of making fresh roots before the extreme cold weather is with us.

Rhododendrons remove well at any time; their small fibrous roots are so numerous that a good workman finds no difficulty in lifting them with sufficient balls to ensure their safe removal. Very many of the Conifers have strong coarse roots, particularly the Wellingtonias and Cupressuses, it would therefore be almost certain death to remove any of these that had made rapid growth and become coarse at the roots; it would be far better to root-prune them first for a season and lift them the next. In all our best nurseries from whence specimen shrubs are annually supplied the whole of them are annually lifted to prevent a coarse root-action, and consequently to promote the emission of fibrous roots around the stem, and large shrubs are then lifted and sent safely almost any distance. Yews, Laurels, and many other shrubs will bear lifting better; they may also be out-in with a knife to make space to admit light and air to choice contiguous specimens. In preparing for fresh plantations trench the ground deeply, for shrubs will make much more rapid progress in well-prepared ground than in ground which has had little or no preparation; and it is surprising how well most shrubs will grow in poor stony subsoil if it has once been deeply broken up and become incorporated with the top soil. We have had great experience with poor, light, gravelly soils, and by adopting the above method and keeping down weeds during the summer shrubs of all kinds have grown exceedingly well. Another very important point in removing shrubs is to plant them again as speedily as possible, for the shorter time their roots are exposed to the air the greater is the chance of their taking more speedily to their new quarters.

In the kitchen-garden department continue to plant-out for the spring supply Cabbage plants as they become strong enough. Thin the autumn-sown Onions if there is a likelihood of their being too thick. The thinnings may be transplanted or used young. Continue planting-out fresh breadths of Endive and Lettuce, and tie-up both kinds, if required, to blanch; also earth-up Celery, choosing dry days for this work. The first planted rows will now be ready to receive the final earthing-up.

Thin-out Turnips where they are too thick, they will form the quicker and withstand the winter better, and ply the hoe amongst the myriads of small weeds which have sprung-up during the past damp and dull weather. Remove the weeds to the rubbish heap, together with any decayed vegetation, as the sun after this will not have much power in destroying them, and the heavy dews at night will cause them to take root again.

Expose Tomatoes to the light as much as possible, and any changing colour should be cut and removed under glass, where they will soon ripen.

Chrysanthemums require daily attention to disbudding, training, and watering; and Fuchsias which have ceased blooming should be placed out of doors for a few days to finally ripen-off prior to housing them for the winter.—J. W. MOORMAN.

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

KITCHEN GARDEN.

The weather with us has during the last two or three weeks been extremely favourable for out-of-doors operations; very little rain has fallen during that time, and the soil is dry. A good soaking of manure water would very much benefit green crops intended for winter use. Drainage from the farmyard is well adapted for this purpose, but in many cases such useful fertilising material is allowed to run to waste. Sewage water is also very valuable for watering; the late Mr. R. Fish used quantities of it both to water the roots and also over the leaves. He stated that it drove away red spider and green fly, and also prevented insects from settling on the leaves to lay their eggs. Our Brussels Sprouts are not growing so freely this year as they have usually done, and are therefore later than usual. It is well to make two sowings of Sprouts, one in March and the other a month later. The earliest sowing should now be well advanced, but the sprouts do not form well unless the heart is taken out of the plant. We shall be glad of the Coleworts, which will be in use from now until Christmas; after which Savoys will be the best, to be succeeded by Sprouting Broccoli. It has been excellent weather for earthing-up Celery; this is an operation that must be done in a careful manner. It is a good plan to tie the leaves together with a strip of matting, and after breaking down the edge of the trench with a fork or spade hold the Celery plant with the left hand, and with the right place the finely-broken soil round the plant. In this way the finer particles will not choke the centre, and thus prevent the development of the plants. Onion, Cauliflower, and Lettuce seeds sown two weeks ago have germinated very freely. The Lettuce and Cauliflower plants are frequently at this season attacked by slugs, and many of them are destroyed; we shall dust the rows over at night with fine-ground lime, which will prevent the slugs doing much mischief. We have been looking over the Potatoes and find that the disease has destroyed a considerable portion of them. This has been a very trying season for the Potato plant: first the cold east winds in the spring, with frost at night after the leaves were formed, stopped the growth, and in many instances a second growth had to be made; this told very seriously against the crop. Now the disease is likely in many instances to destroy half or more of the crop that has arrived at maturity. Except storing Onions for winter and early spring use, and digging vacant ground, but little other work has been done in this department. Some of the ground now prepared by digging and manuring will be planted presently with Cabbage plants for use in May, June, and even into July. Early York or Atkins's Matchless, planted much closer than usual and in a warm position, will be found very useful for cutting from before the general crop comes in. Those who grow Tomatoes on the walls will do well to take heed that frost may come suddenly, and it would be well to prepare for this by cutting the fruit and placing it on shelves in the vinery or some other structure where it may ripen. In our uncertain climate it is better to grow Tomatoes under glass, but those who have not this convenience will find they do best on a wall facing south or west. Only in very early districts and favourable circumstances will they do well planted in open borders.

VINERIES.

We alluded two weeks ago to the necessity for great care in heating and ventilating houses where Grapes are hanging for use during winter and the early spring months, and also to see that the decaying berries are removed at once to prevent further injury to those which are sound. Another matter connected with forcing Grapes is too often overlooked, and that is the maturation of the wood after the fruit has all been gathered. It does not always follow that because the wood is strong and brown that it is also well ripened; in fact the contrary is often the case, especially if the leaves have been prematurely destroyed with red spider or scorching. The leaves ought to remain in a healthy condition for some time after the fruit has been gathered, and to secure this they must be free from insect pests, and the roots must also be in a healthy growing condition. It is a fact that at this time the roots are much more active than they are in

the earlier stages of the Vine's growth. We have also repeatedly urged the importance of having the borders sufficiently moist to their full extent; and further, it may even be necessary to keep the house closer for a little longer, and also to maintain a higher temperature by artificial means.

Vines in pots intended to be placed in the forcing house early in November must now be cut back, and either be placed out of doors where the pots can be protected from heavy rains, or they may be placed in the house intended for them if it is ready for their reception, and no more water should be given to the roots than is sufficient to keep them from being injured. When starting them a little bottom heat is an advantage, but this must bear some proportion to the temperature of the house. It is not natural and there is nothing gained by plunging the pots in a bottom heat of say 90° and a temperature for the tops of say 45° or 50°. If the bottom heat exceeds 70° we would not plunge the pots very deeply into it. Vines in pots require very much attention as regards watering; if they suffer in this respect the leaves will soon tell the tale of their sufferings.

Strawberry Plants in Pots.—These are now maturing their growth for next season. The crowns are already very full, and give promise of good results next year. All the attention they require at present is to see that the roots do not suffer by want of water, and to remove all runners as fast as they are formed. We are also careful to see that each plant is fully exposed to the action of the sun's rays. If the plants are crowded together it is not possible that they can come to perfect development.

PLANT STOVE AND ORCHID HOUSES.

We have been very busy during the last week or two in thoroughly cleansing the plants and also the wood and glass-work of the houses. During the summer months we are not careful to thoroughly clean and wash the glass very frequently; but now with the shortening days and cold dull weather every ray of sunshine obscured will tell against the health of the plants. We do not expect to do any more potting until the days are about as long in spring as they are now, and our work will now be cleaning plants, and tying-out and preparing specimens for next season. Choice climbing plants, such as *Stephanotis floribunda*, *Dipladenias*, *Clerodendron Balfourii*, &c., are now having their growths trained to strings; these are fastened to the trellis, and the shoots are trained singly along them in the direction of the glass, and also under the glass within about 6 inches of it. It is necessary that the glass should be quite clean over all such plants, and when the wood is ripening not less than 65° of heat should be maintained at night, with a proportionate rise by day. Very important also is it to thin-out the young growths; we not unfrequently see large specimen plants making vigorous growth at this season, and the growths, four or five together, twining firmly round a stout wire; it is not possible to obtain good results if plants are allowed to grow so. Such management, or want of management, reminds one of Allan Ramsey's lines, where he says—

"I love the garden, wild and wide,
Where Oaks have Plum trees by their side;
Where Woodbines and the twisting Vine
Clip round the Pear tree and the Pine;
Where sweet Jonquils and Gowan blow,
And Roses 'midst rank Clover grow."

All very well in its place, and others besides the poet could appreciate it; but this style is quite out of place in well-managed hothouses. The importance of carefully training the young growths of climbing stove plants has been repeatedly urged in these columns, and when they twine round permanent wires it is best to untwine them and arrange the growths out regularly on the trelliswork. The good old *Allamanda Schottii* is a magnificent plant to train to the rafters of large houses, and at the time it is in flower it is best to allow the young growths with the flowers to hang loosely about. Although it may be classed as a climbing plant, the growths do not twine round the wires to which it may be trained. The plants are now profusely in flower. Except on one occasion that the leaves were attacked with red spider where they could not be readily syringed, we have never had any insect pests fasten on it. For smaller houses the species *A. grandiflora* is extremely beautiful; it flowers profusely, and the blooms are quite distinct from any other sort. We have cut-back the young growths of some of the *Dipladenias*, and as the plants are nearly denuded of leaves it gives us a golden opportunity to wash the plants thoroughly and to free them from bug.

Orchids under cultivation must be said to have their season of rest during the months of November, December, January, and February; but it would be a great mistake to dry the plants off indiscriminately, as some species are now in flower, others are throwing up their flower-spikes, and more starting into growth. Those that have completed their growth and are intended to flower during the spring and early summer months must be rested by withholding water, so that the growths may be consolidated. Many of the *Dendrobates* answer to this description, and no water should be applied as long as the growths remain plump; should they begin shrivelling apply water, but

not to the pseudo-bulbs. Cattleyas also enjoy a season of comparative rest if their growths are formed, but those having growths in the course of formation must have water sufficient to prevent any check. Phalenopsis also, although it is not well to allow them to become so dry as is required for Dendrobiums or Cattleyas, must not be gorged with water during the winter months, and it is necessary to be careful that none falls on the leaves. We do not have any water in the evaporating troughs after this time of the year, but it is necessary to sprinkle the paths and stages to maintain a certain degree of moisture.—J. DOUGLAS.

TRADE CATALOGUES RECEIVED.

James Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea.—*Catalogues of Fruit Trees, Dutch Bulbs, &c.*

James Carter & Co., High Holborn, London, W.O.—*Catalogue of Dutch Flower Roots.*

William Paul & Son, Waltham Cross, London, N.—*Catalogues of Roses and Bulbs.*

E. G. Henderson & Son, Pine-Apple Nursery, Maida Vale, London.—*Catalogue of Dutch Bulbs and other Flower Roots.*

William Barron & Sons, Elvaston Nurseries, Borrowash, Derby.—*Catalogue of Conifers, Fruit Trees, Roses, &c.*

Henry Merryweather, The Nurseries, Southwell, Notts.—*Catalogue of Roses.*

Wm. Clibran & Son, Oldfield Nursery, Altrincham.—*A Descriptive Catalogue of Dutch Flowering Bulbs, Roses, Conifera, Shrubs, Fruit Trees, also Spring Flowering and Herbaceous Plants, &c.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

BOOKS (M. J.).—"The Greenhouse, its Plants and Management," free by post if you enclose eleven postage stamps with your address. (M. B.).—"Our Kitchen Gardening for the Many," free by post from our office if you enclose six postage stamps with your address.

ROSES (Marlow).—It is impossible to name Roses from small specimens. They are too numerous and too nearly alike.

GRAPES (Ibid.).—The Vines probably require more moisture at the roots, and tepid liquid manure occasionally. The bunches of Grapes should be thinned more.

FRENCH MARIGOLDS (H. Cannell).—They are splendid. We never saw finer flowers, nor petals more regularly or brilliantly striped.

DOUBLE PELARGONIUMS (Q. L., Ireland).—We presume your variety is a seedling. It resembles Madame Emilio Baltet (Lemoine), which is the best of the double white varieties. The truss you have sent is of medium size, flowers double and well expanded, petals smooth and pure white. It is worthy of being submitted to the Floral Committee of the Royal Horticultural Society. It is a good variety, but whether it is distinct from the one named can only be ascertained by a comparison of plants in a flowering state.

OLEA EUROPEA, &c. (Willesden).—Neither the Olea nor the others are hardy.

PRIMULAS "FLOWERING PREMATURELY" (Amateur, Bristol).—We do not consider them premature at all. If the plants were not sufficiently strong to flower now, they would not be likely to make a fine display in the spring. Pinch-off the flowers, and as the plants are only in 4-inch pots repot them into 6-inch pots, draining thoroughly and employing a compost of turfy loam, very decayed and dried manure, or failing this, leaf soil and peat in equal parts with a liberal admixture of silver sand. Do not pot the plants deeply; they may be kept in an upright position by three small sticks an inch or two long inserted around each plant. Place them on a shelf in the greenhouse, and with good attention you will have fine plants in the spring.

WINTERING ALTERNANTHERAS (J. M.).—As you have not struck any cuttings, take up some old plants before they are injured by the frost. Pot them in good soil, and winter them in a cool stove—that is, a house having a minimum temperature of 50°. In the spring place them in brisk heat and they will yield an abundance of cuttings, which may be rooted and prepared for planting-out when the weather is favourable. They cannot be safely preserved in a cool vinery or greenhouse.

HARDY APPLE (Clericus).—You have been rightly informed that Cellini has withstood the inclement weather of last spring better than many other varieties. We have seen it in many gardens bearing excellent crops, while the majority of the trees surrounding it were barren. It is a very useful autumn Apple.

CONIFER FOR SMALL LAWN (J., Brixton).—As you require a specimen of "compact growth and conical habit yet less sombre than the Irish Yew," we advise you to plant Cupressus Lawsoniana erecta viridis. It is a cheerful and handsome Conifer for the small grass plot of a villa garden.

RIPENING THE WOOD OF VINES (J. T., Cambridge).—It is most important that the wood be well ripened, and fire heat is seldom more profitably employed than during the autumn. The advice that has been given to you to

remove the lights to "harden" the Vines is erroneous. It is heat, not cold, that matures the wood. As your Vines are still growing and the wood is soft, remove the laterals and apply fire heat—in fact, follow the advice which is given on another page by "A KITCHEN GARDENER," who ranks amongst the most competent Grape growers of the day.

GARDENIAS AFTER FLOWERING (Eve).—After flowering they are benefited by a short season of rest. This means keeping them only moderately moist at the roots, and in a lower temperature than that in which they have made their growth. Casti after flowering also require a season of rest. The plants should be freely exposed to the sun, and not any water applied to the roots.

SEEDLING BRIARS (A. Chapman).—We do not know where Briar seeds are sold, but they can be gathered in plenty in many places in the hedgerows. Sow in beds in the open air in early spring. The plants may be budded the second year close to the surface of the ground. The plants are very small the first year, but may be transplanted in the autumn, and make excellent stocks the next season. Mr. Prince of Oxford can supply seedling Briars at a cheap rate. We bought them last year at 1s. 6d. a hundred, or he can also supply plants worked on the seedling Briar.

TUBEROSES (M. L.).—These roots do best the first year, but if the roots are gradually dried off they will flower a second season. Keep the roots in a dry place during the season of rest in the pots in which they were grown. You should purchase the highest-priced roots if you desire the best results.

RENEWING VINE BORDER (Amateur).—If all the roots are outside we think it would be better not to lift the Vines until November. You might mix the compost for the border at once and place it under cover. If part of the roots had been inside you might have done the work at once. We would not use any manure except about a hundredweight of crushed bones to four cartloads of the turfy loam.

VINES ON WALL (G. A. Douglas).—The lights placed against the wall will very materially aid in ripening the Grapes, and your plan is good. We would leave a space of half an inch or so between the lights, as the air would be confined and cause the Grapes to mould. If you were to place the lights on early in the year it would be a still greater advantage.

HEATING SMALL HOUSE (A. Harrison).—The house might be heated from the kitchen boiler, but not as you propose. The tendency of hot water is to rise, and it would not circulate if the pipe falls from the boiler 6 inches in a short distance. Let the flow pipe be fixed near the top of the boiler and the return at the bottom; but there must be a slight rise of the flow to the point furthest from the boiler, and at that point an air pipe should be fixed. The two pipes may keep the frost out in severe weather, they will not do more.

VINES FOR LATE HOUSE (R. K.).—You might plant eight Vines at 2 feet 9 inches apart. The following sorts are the best for your purpose:—Three Black Hamburgh, two Lady Downe's, one Alicante, one Buckland Sweetwater, one Golden Queen.

LOPPING AUSTRIAN PINE (Dan).—We should do it now, though if the branches shade the Yew hedge much, we should for the sake of the hedge defer the lopping of the Austrian Pine branches until February or March.

GRAPES BURSTING—UNEVEN-SIZED BERRIES (Caught Napping).—The berries crack or burst from an overmoist atmosphere, with probably too much moisture at the roots. The remedy will be to discontinue watering the border, and to maintain a drier atmosphere: have gentle fires by day with efficient ventilation, leaving a little air on all night to prevent moisture being deposited upon the berries. The late summer has been so wet and unless that fire heat became with us a necessity in order to cause a circulation of air, a close moist atmosphere being fatal to the ripening and keeping of Grapes. The application of superphosphate at the rate you name is not only very extravagant but calculated to do more harm than good. We should remove the surface soil an inch or two deep, and replace with turfy loam to which has been added a sixth of charcoal. Uneven-sized berries are chiefly a result of strong wood imperfectly ripened, there being many uneven-sized berries in houses in which fire heat was not employed last autumn for the ripening of the fruit and wood.

WORMS—ANTS—IMPROVING THE TEXTURE OF HEAVY SOIL (J. L., Preston).—The worms would be best destroyed by an application of lime, which would much improve the texture of the soil. Gas lime is a powerful insecticide, requiring to be very carefully employed in gardens. The most that it is safe to use is a peck per rod, and it will not even at that rate be safe to employ it among plants. We should use lime in the fresh slacked state at the rate of six tons per acre, in February or March, though it may be used in October or November, and pointed-in with a fork. The ground would be best thrown-up roughly for the winter, and limed in March. This would destroy the worms. The ants may be driven away by sprinkling their haunts with guano. Ashes would tend to loosen the soil, rendering it more open and easy to work. Soot may be applied during the growth of the plants; it is a powerful fertiliser, and is good against predatory vermin.

DESTROYING ANTS (W. D. P.).—We fear that you will experience considerable difficulty in exterminating the ants from the pit of cocoa-nut fibre refuse in your greenhouse. Sprinkling with Scotch snuff in such a case is not likely to be efficacious. Pouring boiling water on the fibre might destroy many of the ants. We have not had experience with carbolic acid as an ant-destroyer. The plan you propose is worth trying. Try it and let us know the result. (W. C. B.).—We know of no mode of driving them away than sprinkling Scotch snuff or guano over their haunts.

NAMES OF FRUITS (Knutsford).—Devonshire Quarrenden. (Cannon).—Caraway Russet. (Hugh Strahan).—Summer Pearmain.

NAMES OF PLANTS (W. G. A.).—The numbers had slipped off the specimens; send others with numbers firmly attached. (M. E. D.).—Cassia corymbosa. It is a native of Buenos Ayres.

POULTRY, BEE, AND PIGEON CHRONICLE.

MICHAELMAS DAY.

As regards entries the first of the series of metropolitan shows in the number of its poultry entries can hardly be called a success, for it has just been beaten by Ipswich and Bath. It has hardly an average of nine throughout all the poultry classes, which for a London show is a small number, while Ipswich had

just an average of nine, and Bath was just over that number. In the case of the last two mentioned shows, however, we must state that there were other exhibitions of note going on in other places, while besides London there is this week no other meeting that we know of. We can gather from this that the rate of entrance fees is considered too high, and we heard many at Ipswich commenting on the excessive sum charged for entering in proportion to the prizes given at the London shows. We do not suppose any more unfortunate year could have been chosen to try to set four metropolitan shows afloat, for we are sure chickens so far of any merit have been scarce and backward, and are likely to be so for some weeks to come. It was a very late and cold spring, and the chickens did not grow or thrive. We have had opportunities of attending many of the best chicken shows which have been so far held, and also have seen the yards of many fanciers in the past few weeks, and we have found chickens scarce and late. We allow that the specimens so far which have come to the front have been good and quite worthy of their places, but the classes have mostly been small, and some birds would even have been better for a month or two more at home.

We believe there will be by the end of next month many more good birds about, and we daresay Oxford may not find itself with a much smaller number of entries, while at the Palace all will be ready who have any hopes of coming to the front; but we are assured by many breeders that their March and April chickens failed entirely, so that some will have to wait for the old birds' classes and be non-exhibitors of chickens at all this season, save in isolated cases where some chance bird has come forward better than its mates. At Stoke Park the other day we saw Black Cochins pullets, Light Brahmas, and Buff Cochins pullets which will do, probably, great things one of these days; but Mr. Wragg was as late as his friends, and his chickens mostly want more time. And so again with Mr. Cresswell: he has Silver Dorking pullets which we doubt at their age we ever saw excelled, and so with his White Dorking cockerels; but the Crystal Palace will see them in their prime, and no show before, though he may exhibit them at Oxford. The Little Ness birds, too, are all late—Cochins of all colours and the Polands; and Mr. Darby has as yet been quite unable to do the summer and early autumn chicken shows in his usual style. Mrs. Holmes has capital chickens coming on, and so has Mr. Norwood, and so with very many more. From all sides we hear the same stories. "So late," "All behind," "We must wait a bit."

Now how much better would it have been if one or two of the London shows had waited a while. Some time in December, after Birmingham, would have afforded them a good opportunity, and we still think there is a date then which could be taken by an enterprising Committee and made much of. Chickens there must be by then if there is ever to be a display, and after the Palace and Birmingham meetings exhibitors would in all probability go in for one more great show before settling down to the busy time of breeding. Bristol is dead, we fear. The proprietors of the Belle Vue Gardens at Manchester are no longer caterers for the poultry fancy, so we should like to see some party of fanciers in a large town seize upon the date we name, and make a great exhibition on the ashes of the dead. They will never have such another chance perhaps, for it may be years again before the birds are generally so late. We have heard rumours that the Agricultural Hall have in contemplation a monster exhibition of all sorts of fancy stock for that date, but we believe nothing is yet definitely settled, and, as far as we are concerned, we doubt if after the four in prospect it would be wise to start another show in the metropolis. If this Poultry Club which has now attained the management of so able a man as Mr. Cresswell ever intends to hold a show, the Committee can never lay hold of a better year to begin if they meet at the time we name. But though we have in no way abated our interest in this proposed body of fanciers amalgamating together, we do not see that a show is at all necessary to be held by them. In the full hopes of seeing large classes of good quality at the Alexandra, Oxford, and coming shows, we confidently look forward.—W.

WEYMOUTH POULTRY SHOW.

This Exhibition offered good money prizes in each class with a low entry fee, and consequently they got together some of the best chickens extant from the best yards. Mr. Dixon awarded the poultry prizes and gave satisfaction, and we only lament that from the clashing of other exhibitions this Committee did not obtain an even greater return for the prize money offered.

The Dorkings were admirable. The Coloured of Mr. Burnell and the Silvers of Mr. Boissier were most praiseworthy, and in these days when there is so much said against the honesty of egg vendors it may be interesting to many to learn that all the late winning Silvers of Mr. Boissier were hatched from purchased eggs. Mr. Beachey's Dorkings are thoroughly up to the mark, well grown and well shown. Cochins were of capital quality, the Buffs and Whites more especially so. In the latter

class the first pullet (Lang), was good, and also the first and second cockerels (Tindal and Woodgate). In the other Cochins class the Partridges excelled; Black cockerels are, we are afraid, few and late. *Lanashans* had two classes. Mr. Dixon gave Mrs. Lang the cup. In *Hamburghs* the first Spangled (Long), and first Black (also Long's) were good, and the Golden-pencilled of Mr. Cresswell had many merits. In *Polands* the first went to superb Blacks, the hen simply grand (Norwood), and clean through her moult; third also were good Blacks (Darby); and second to Golds (Burrell). *Leghorns* came well to the front, and we thought the awards good. In *Brahmas* the Lights were admirable. Mrs. Drummond exhibited a cockerel, shapely and good in comb, and the pullet of Mr. Crook was a finely-grown chicken. Darks, too, made larger classes than usually they have done of late. In *French* the first Houdans contained a fine old cock (Boissier) mated with a good all-round pullet, and the winning Crêves were Black and large. In the Variety class Silbies were first and third, and Sultans second. The *Bantams* and *Waterfowls* were of great merit, the Booted of Mrs. Holmes being most promising. This lady seems to have quite established the Black-booted, and to have bred out the brassy hackles. We hope Mrs. Crook will be as fortunate with her Light Brahma Bantams, which are journeying along the right road. The Sale classes were well filled, and in *Pigeons* Mr. Jones had a fairly large number to deal with, and performed his work with success. The winning Pouters were good, as, too, were the Turbits. In *Fans* good Whites came first, and the *Dragoons* mustered well, and the winners were highly meritorious. The entries were chiefly made by amateurs, for the great exhibitors were away in Suffolk. We hope this Society will continue to thrive, and that next year they may meet with even greater success than on the present occasion.

THE WESTMINSTER AQUARIUM POULTRY AND PIGEON SHOW.

THIS Show, the second of the kind held in the Aquarium, opened on Tuesday afternoon. The building is admirably adapted to the purpose, and we looked forward to seeing a splendid collection of both poultry and Pigeons. Our expectations were heightened as we read in the train from the advertisement columns of the daily papers, "The greatest Show ever held." We cannot say that the reality quite came up to our anticipation, for neither numerically nor in point of quality is the Poultry Show equal to many provincial shows, though the Pigeons are, indeed, a large and magnificent collection. It is most unfortunate that four great shows should be held in or near London within a few weeks. The season has not been a good one for early chickens, and we much wish that some of these shows could have been deferred to a time when birds of the year can be seen in their proper state of development, instead of being shown now when the pens are filled with a few precociously forced birds and a great many immature chickens. The Bristol Show is, we fear, a thing of the past, and the early days of January in which it was formerly held would be a capital time for an exhibition in London, then full of holiday-makers. This, however, is a suggestion for another year; we must return to the present Show. Its management seems in every respect good, a great improvement on last year. When the doors were opened every bird was in its place, and many classes had their prize cards up, and by five o'clock almost the whole of the awards were announced. The poultry numbered 550 pens, about the number at Ipswich last week.

Dorkings head the list, and are certainly better than the *Dorking* classes at the latter Show. The cup goes to a huge Dark cockerel of Mr. Beachey's, long on the leg, and with a poor comb; we prefer Mr. Burnell's second. Mr. Peel's third-prize birds are square, full-breasted, true Dorkings. The pullet cup goes to a good Coloured bird of Mrs. Lang's; the second Dark pullet looks very antique. The first and second cockerels in the Any other variety *Dorking* class are both good Silver-Greys; the first is the largest; a weedy White is third. The winning pullets are all Silver-Greys, the first very large, and, as well as the second, of the pale-breasted very soft colour.

Cochins.—The cup here goes to Mr. Sidgwick's Buff cockerel, a real canary-coloured bird, young and still chicken-like; second is a very heavily-feathered bird of Mrs. Tindal's; third a rich and evenly-coloured bird, which we thought very good. The first Buff pullet is of the canary hue and well shaped. The cup for pullets goes to a beautiful Partridge belonging to Mrs. A. Tindal. The Any other colour classes are poorly filled, and the specimens by no means equal to some of those we saw at Ipswich. All the winners are White save the third pullet, a good Black.

Brahmas.—The cup Dark cockerel is a massive heavily-feathered bird, rather coarse in head; second will quite be his equal by-and-by. The first Dark pullet is a grand bird, combining exquisite pencilling with fine shape and size; her leg-feathering is a little deficient. The first Light cockerel is a very matured bird, short-legged and of the Cochins type; he

Cock.—1, J. Baker. 2, R. Woods. 3, A. Curtis. *Any other colour or White*.—*Hen*.—1, J. Chandler. 2 and 3, R. Woods. *Young Cock or Hen*.—1, R. Woods. 2 and 3, Withfield. *Blue-chequer*.—*Cock*.—1 and 2, R. Woods. 3, J. Guthrie. *Hen*.—1, J. Guthrie. 2 and 3, R. Woods. *Young Cock or Hen*.—1, 2, and 3, R. Woods.

TUMBLERS.—*Short-faced Almond*.—*Cock*.—Cup, H. C. Henning. 2 and 3, J. Ecroyd. *Hen*.—1, R. Fulton. 2, J. Baker. 3, J. Ecroyd. *Young Cock*.—Cup, H. C. Henning. 2 and 3, R. Cant. *Young Hen*.—1, 2, and 3, H. C. Henning. *Short-faced Agate*. *Kite*. *Splash*. *or Whole-feathered*.—*Cock*.—1 and Cup, J. Baker. 2, J. Ecroyd. 3, R. Fulton. *Hen*.—1 and 3, H. C. Henning. 2, J. Baker. *Young Cock or Hen*.—1 and 3, H. C. Henning. 2, E. Beckwith. *Short-faced Black Mottled*.—*Cock or Hen*.—1, Cup, and 2, J. Baker. 3, H. C. Henning. *Short-faced Bald Beard*.—*Cock or Hen*.—1, F. Wilde. 2, J. M. Braid. 3, J. S. Martin.

PARS.—*Black or Dun*.—*Cock*.—1, Cup, and 2, J. Firth. 3 and *vhe*, M. Hedley. *Hen*.—1 and 2, M. Hedley. 3, J. Firth. *Any other colour*.—*Cock*.—1, M. Hedley. 2, R. Fulton. 3, J. Firth. *vhe*, P. H. Jones. 2, J. Firth. M. Hedley. *Hen*.—1, R. Fulton. 2, M. Hedley. 3, P. H. Jones. *Any colour*.—*Young Cock*.—1 and Cup, R. Fulton. 2, H. M. Maynard. 3, T. K. Cucksey. *vhe*, P. H. Jones. *Young Hen*.—1, M. Hedley. 2, H. Heritage. 3, P. H. Jones. *vhe*, E. Beckwith.

JACOBS.—*Red*.—*Cock*.—1, J. Schweitzer. 2, S. Salter. 3, E. E. M. Roysds. *vhe*, J. Pyper. *Hen*.—1, S. Salter. 2, J. Pyper. 3 and *vhe*, E. E. M. Roysds. *Yellow*.—*Cock*.—1 and *vhe*, H. Heritage. 2 and 3, E. E. M. Roysds. *Hen*.—1 and 2, E. E. M. Roysds. 3, J. Schweitzer. *vhe*, J. Baker. *Black*.—*Cock*.—1, Cup, and *vhe*, H. Heritage. 2, J. Baker. 3, E. E. M. Roysds. *Hen*.—1, H. Heritage. 2, E. E. M. Roysds. 3, J. Baker. *White*.—*Cock or Hen*.—Cup and 2, S. Salter. 3, J. Baker. *vhe*, E. E. M. Roysds. *Any other colour*.—*Cock or Hen*.—1, E. E. M. Roysds. 2, H. Heritage. 3, J. Schweitzer.

FANTAILS.—*White English Style*.—Cup, Baker. 2, J. F. Lovelands. 3, H. M. Maynard. *White Scotch Style*.—1, H. M. Maynard. 2, J. Baker. 3, J. E. Spence. *Any other other or crossbred*.—1, J. Baker. 2, H. Yardley. 3, H. W. Webb.

NUNS.—*Cock or Hen*.—1, J. T. Herbert. 2, W. P. Stephenson. 3, H. Jacob.

TRUMPETERS.—*Cock or Hen*.—1, J. Lederer. 2, T. Rale. 3, J. Baker.

SWALLOW.—*Cock or Hen*.—1, W. Tidd. 2, R. Woods. 3, C. Parsons.

ARCHANGELS.—*Cock or Hen*.—Cup and 2, H. W. Webb. 3, F. P. Bulley.

ENGLISH OWLS.—*Any colour*.—*Cocks*.—Cup, J. Ecroyd. *vhe*, E. Leo. *Hen*.—1, Cup, and 3, S. Salter. 2, Ward & Rhodes. *Blue or Powdered Blue*.—*Cock*.—1 and 3, S. Salter. 2, Ward & Rhodes. *vhe*, J. Ecroyd. *Silver or Powdered Silver*.—*Cock*.—1 and 3, S. Salter. 2, J. G. Sprunt. *vhe*, S. Salter. P. H. Jones. *Any other colour*.—*Cock*.—1 and 2, S. Salter. 3, R. Fulton.

FOREIGN OWLS.—*Any colour*.—*Cock or Hen*.—1 and Cup, F. Wilde. 2, T. Chambers. 3, J. Ecroyd. 4, J. Sparrow. H. W. Webb. 3, F. P. Bulley.

TURBIDS.—*Blue or Silver*.—*Cock*.—1, E. Walker. 2, R. Woods. 3, S. Salter. *vhe*, P. H. Jones. *Hen*.—1, J. Ecroyd. 2, T. C. Burnell. 3, P. H. Jones. *vhe*, J. T. Herbert. *Red or Yellow*.—*Cock*.—1 and 2, J. Ecroyd. 3, Ridley & Dye. *vhe*, T. C. Burnell. *Any other colour*.—*Cock*.—1 and Cup, J. Ecroyd. 2, O. E. Cresswell. 3, S. Salter. *vhe*, G. Hardy. E. Walker. *Hen*.—1, R. Woods. 2 and 3, J. Ecroyd. *Shell-crowned*.—*Cock or Hen*.—1, J. Ecroyd. 2, O. E. Cresswell. 3, G. Hardy. *Any colour*.—*Cock or Hen*.—1, G. Roper. 2, H. E. Tenney. 3, S. Salter. *vhe*, J. Baker. 4, R. Fulton. G. Hardy. E. Walker. Ridley & Dye.

MAGPIES.—*Black*.—*Cock or Hen*.—1 and Cup, S. Salter. 2, F. P. Bulley. 3, W. Tidd. *Any other colour*.—*Cock or Hen*.—1, G. H. Gregory. 2, S. Salter. 3, R. Fulton.

RUNTS.—*Any colour*.—*Cock*.—1, J. F. Alfaro. 2, J. S. Price. 3, J. Bailly, jun. *Hen*.—Cup, H. Yardley. 2, Lady F. Bushby. 3, H. Stephens.

FLYING TUMBLERS.—*Bald or Beard*.—*Cock or Hen*.—1, J. Brown. 2, C. W. Hobbs. 3, E. Davis. *Any other colour*.—*Cock or Hen*.—1, J. Baker. 2 and 3, H. O. Crane.

BLONDIETTES. *TURBETTES*. *SATINETTES*. &c.—*Cock or Hen*.—Cup, E. Beckwith. 2, H. Yardley. 3, P. H. Jones. *vhe*, R. Fulton.

ANY OTHER VARIETY EXCEPT ANSWERS.—*Cock or Hen*.—1 and 2, E. Beckwith. 3, F. P. Bulley.

SHORT-FACED ANSWER.—*Cock or Hen*.—1 and 3, J. Ecroyd. 2, W. F. Entwistle.

HOMING.—*Cock*.—1, Cox & Norris. 2, J. W. Barker. 3, T. K. Cucksey. *Hen*.—1, J. H. Sparrow. 2, Cox & Norris. 3, T. Comm.

SELLING CLASS.—*Carrier*. *Pouter*. *and Short-faced Tumbler*.—*Cock or Hen*.—1 and *vhe*, H. M. Maynard. 2, K. Cant. 3, J. Baker. *Any other variety*.—*Cock or Hen*.—1 and 2, P. H. Jones. 3, W. Sargeant. *vhe*, J. Baker. *Pair of Birds of any variety*.—1, P. H. Jones. 2, W. Tidd. 3, J. J. Edleston.

FLYING CLASS OF HOMING BIRDS.—*Cock or Hen*.—Cup and 2, J. Edmunds. 3, J. J. Sparrow. 4, G. Carvill. 5, R. S. Pearce.

JUDGES.—Messrs. Hewitt, Teesbay, Nichols, Betty, Hawley, Capt. N. Hill, F. Wiltshire, F. E. Esquilant, and F. Graham.

IPSWICH POULTRY SHOW.

THIS excellent Show of poultry and Pigeons was held in the Corn Exchange. The Ipswich Committee are all real fanciers, and under Mr. Wragg as captain they brought their show to a most successful issue, and as they for the first time introduced the plan of having amateurs as Judges an immense amount of interest was taken in the awards. Mr. Horace Lingwood judged the Brahmas and Sale classes; Mr. Mathews the Malays, Game, and Game Bantams; Mr. Felton the Cochins; and Mr. Cresswell the remainder; and we heartily congratulate each gentleman upon his awards. The Committee were most anxious for the welfare of the birds and exhibitors, and we did not see a bird wrongly penned from any blame of the attendants, and never, we think, saw fewer empty pens.

Dark *Brahma* cockerels opened the catalogue, the winner going to Stoke Park—a well-growing bird of good feathering and sound colour. In Dark pullets the second was perhaps the best in markings and colour, but she had too much hack feather for Mr. Lingwood's fancy. Light cockerels were excellent and the winners admirably chosen, though we doubt if the Judge was as happy in his selection of Light pullets. We did not care for the winner, who was puffy in body and ungainly in her movements. The second and third were very good, as was the pullet of Mr. Dean. Lady Gwydyr showed a good one but younger. Buff *Cochin* cockerels followed. Perhaps second or third were in the best feather and of soundest colour, but the cup bird was very broad and large and pretty in head and feet. This bird, we believe, is to cross the ocean in a few days. We liked the three winning Buff pullets very much, and there was little between them; the third, however, had no tail and a little black in her neck. Partridge cockerels were good, the first the most

up; and in pullets a bird lovely in pencillings walked in first; second was also good, and then came a great difference between her and the remainder. White cockerels were good, the winner the older, or else not very shaven in tail. In White pullets the first won the cup; she was a big bird and good all round. Second a little in need of a bath, or else very good; and the third a neat pullet. Black cockerels were also young, as were the pullets, but the latter class was large and of great merit throughout, the cup bird beautifully feathered and bright in bloom.

Dorking cockerels were all good, the cup bird excelling in head, colour, and shape. In pullets only the two winners deserve notice. The second here again younger than the first, but of more future promise. In White Dorkings we liked the first pullet very much; the first and second cockerels were also good and of nearly equal quality. In *Spanish* only the cup cockerel was good; he had a nice head and smooth face. The first *Minorca* (Black) cockerel was fair, but the class miserably small. In *Game* Mr. Martin's Brown Reds were splendid. This gentleman, too, showed some good *Duckwing* cockerels, one of which was claimed for £10 10s. A good *Pile* was second in the Variety class, and the first Black Red cockerel was stylish and good in feather. In *Malays* the cup went to the cockerel, a good all-round bird, but not very large. The first pullet was big and good in bone, with proper carriage. *Hamburgs* mustered well. The cup went to the Gold-pencilled cockerel, a prettily tailed bird and bright in colour. The first *Silver-pencils*, first *Silver-spangled* cockerel, and the winning *Blacks* were all good, and we quite approved of the Judge's selections; we believe, too, all were satisfied, which in such competition is satisfactory. The *Polands* were very meritorious, the cup going most deservedly to a superb *Silver* pullet, large in crest and perfect in marking. The first cockerel was a Black, a good showy chicken, and we are glad to see how this breed has come to the front of late.

The *French* divisions were large, and on all sides we heard Mr. Cresswell congratulated on his awards. We never remember seeing better *Houdan* pullets than the first and second. They were as excellent in markings as the late Mr. Dring's and Mrs. Vallance's old hens, which won so much. *Crêves* were good, and the awards were well made. We suppose Mr. Horatio Stephens has again bought, for we believe we saw in his pen the first *Bath* pullet of Miss Williams! *Leghorns* were better than usual, and we observed a Cuckoo-coloured specimen which looked rather pretty. The prizes in cockerels all went to Whites, while in pullets a White came in between two exceedingly white-eared Brown pullets. The Variety class contained some good *Silkie*, Cuckoo *Cochins*, and *Sultans*, all of which made their mark in the prize list. *Game Bantams* were meritorious, and in the Variety class a pen of Black-booted won first. Mr. Leno's *Silver-laced* were of high quality and won the cup. The *Waterfowl* were attractive. The *Aylesburys* capital, and useful-looking *Rouens* won the cup, while in the Variety class *Pekins*, *Whistlers*, and *Spotted-bills* won in the order named. *Grey Geese* won all the prizes, and in *Turkeys* we liked all the three prize pens, the third being best in colour though the smallest. In the Selling class were some good Buff *Cochins*—a White pullet shown by Mrs. Holmes, a good *Partridge* cock exhibited by Lady Gwydyr, and several other fair birds, but we did not notice many sales by the time we left, at two o'clock on the last day of the Show. We have only to mention, in conclusion, that the birds were dispatched very quickly at the close of the Show, and we have heard of many birds which reached their owners early on the following day. The prizes for Pigeons were also awarded by amateurs.

POULTRY.—*BRAHMAS*.—*Dark*.—*Cockerels*.—1, Lady Gwydyr. 2, E. Pritchard. 3, T. Pye. *Pullets*.—1 and Cup, W. S. Thomas. 2, G. S. Pearson. 3, R. P. Percival. *vhe*, W. R. Garner. *Light*.—*Cockerels*.—1, Cup, and 2, P. Haines. 3, G. B. C. Breeze. *Pullets*.—1, E. Bennett. 2 and 3, P. Haines. *vhe*, R. F. Percival. *COCHINS*.—*Buff*.—*Cockerels*.—1 and Cup, Lady Gwydyr. 2, A. Jackson. 3, J. Everett. *vhe*, Mrs. Allsopp. *Pullets*.—1, Mrs. Allsopp. 2, Lady Gwydyr. 3, E. Burrell. *vhe*, Mrs. A. Tindal. *Partridge*.—*Cockerels*.—1, R. J. Wood. 2, Duchess of Hamilton. 3, A. Beaumont. *Pullets*.—1, Mrs. A. Tindal. 2, R. J. Wood. 3, A. Beaumont. *White*.—*Cockerels*.—1, Mrs. A. Tindal. 2, Rev. R. S. Woodgate. 3, G. B. C. Breeze. *Pullets*.—1 and Cup, Rev. R. S. Woodgate. 2, G. B. C. Breeze. 3, Mrs. A. Tindal. *Black*.—*Cockerels*.—1, W. A. Burnell. 2, Lady Gwydyr. 3, A. E. W. Darby. *Pullets*.—1 and Cup, Lady Gwydyr. 2, E. Kendrick, jun. 3, W. A. Burnell. *DOCKINGS*.—*Coloured*.—1, W. A. Burnell. 2, Rev. H. R. Peel. 3 and 3, H. Lingwood. *Pullets*.—1 and 2, H. Lingwood. *White*.—*Cockerels*.—1, E. V. Snell. 2, R. F. Smythe. 3, J. E. Pilgrim. *Pullets*.—1, R. A. Boissier. 2, R. F. Smythe. *SPANISH*.—*Black*.—*Cockerels*.—1 and Cup, Mrs. Allsopp. 2, T. Parker. 3, W. R. Bull. *Pullets*.—2, Mrs. Allsopp. 3, R. Newbitt. *MINORCAS* AND *ANDALUSIANS*.—*Cockerels*.—1 and Cup, R. J. Brewer. 2, W. L. Brooke. 3, Miss M. Arnold. *Pullets*.—1, W. L. Brooke. 2, R. J. Brewer. 3, Miss M. Arnold. *GAME*.—*Black Red*.—*Cockerels*.—1, W. K. Kitson. 2, Hon. Rev. H. R. Peel. 3, J. F. Walton. *Pullets*.—1, A. Cameron. 2, W. Rayner. 3, Hon. Rev. F. Dutton. *Brown Red*.—*Cockerels*.—1, 2, and Cup, H. E. Martin. 3, Duke of Sutherland. *Pullets*.—1, 2, and Cup, H. E. Martin. 3, A. Cameron. *Any other variety*.—*Cockerels*.—1 and 3, H. E. Martin. 2, J. F. Walton. *Pullets*.—1, Duke of Sutherland. 2, H. E. Martin. 3, E. Winwood. *vhe*, T. Dyson. W. Kitson. *MALAYS*.—*Cockerels*.—1 and Cup, Rev. H. A. Fairlie. 2 and 3, A. Smith. *Pullets*.—1, J. Hinton. 2, J. Strugnell. 3, Rev. H. A. Fairlie. *Gold-pencilled*.—*Cockerels*.—1, Cup, Fawcett and Anderson. 2, J. Rawnsley. 3, C. W. Gibbs. *Pullets*.—1, J. Rawnsley. 2, Duke of Sutherland. 3, Fawcett & Anderson. *Silver-pencilled*.—*Cockerels*.—1, F. C. Davis. 2, H. Beldon. 3, J. Rawnsley. *Pullets*.—1, W. L. Bell. 2, J. Rawnsley. 3, E. V. Snell. *Gold-spangled*.—*Cockerels*.—1, J. Roberts. 2, T. Dean. 3, Duke of Sutherland. *Pullets*.—1, H. Beldon. 2, T. Dean. *Silver-spangled*.—*Cockerels*.—1, J. Long. 2, Duke of Sutherland. 3, H. Beldon.

Pullets.—1, H. Beldon. 2, Fawcett & Anderton. 3, J. Rawnsley. **Black-Cockerels.**—1, Fawcett & Anderton. 2, C. Sidgwick. 3, L. & F. W. Palmer. **Pullets.**—1, C. Sidgwick. 2, Fawcett & Anderton. 3, Nutman & Wright. **POLANDS—Cockerels.**—1, A. P. Unsworth. 2, J. Rawnsley. **vhc.** J. Partington. **Pullets.**—1, Cup, and 2, P. Unsworth. 3, E. Burrell. **FRENCH—Houdans.**—**Cockerels.**—1 and 3, R. B. Wood. 2, I. Ward. **Pullets.**—1 and Cup, K. B. Wood. 2, R. A. Bossier. 3, I. Ward. **vhc.** M. Hall. 3, W. Thomas. **Any other variety.**—**Cockerels.**—1, H. Feast. 2, C. W. Gibbs. 3, Robinson & Myers. **Pullets.**—1 and 2, H. Stephens. 3, Duchess of Hamilton. **LEGHORNS—Cockerels.**—1 and Cup, A. Kitchin. 2, F. H. May. 3, J. H. Watkins. **Pullets.**—1, Mrs. Simson. 2, A. Kitchin. 3, E. Broome. **Any other variety.**—**Cockerels.**—1, W. Adams. 2, Rev. R. S. Woodgate. 3, T. Bond. **Pullets.**—1 and Cup, Mrs. J. T. Holmes. 2, W. Holmes. 3, Rev. R. S. Woodgate. **SELLING CLASS.—Cocks or Cockerels.**—1 and Cup, W. H. Ward. 2 and 3, J. Everett. **vhc.** Nutman & Wright. **Hens or Pullets.**—1, W. H. Ward. 2, I. Thurman. 3, L. & F. W. Palmer. **GAME BANTAMS.—Black Red.—Cockerels.**—1 and Cup, E. Walton. 2, E. Morgan. 3, W. Shaw. **Pullets.**—1 and Cup, E. Walton. 2, G. Hall. 3, W. Shenton. **Any other variety.**—**Cockerels.**—1, W. Shaw. 2, R. Brownlie. 3, E. Wright. **Pullets.**—1, W. M. Rumbelow. 2, H. Beldon. 3, J. Cook. **BANTAMS.—Scribbits.**—Cup, 1, and 2, M. Leno. 3, W. Richardson. **Black or White.**—E. Walton. 2, F. Bealand. 3, J. W. Crowther. **Any other variety.**—1, Mrs. J. T. Holmes. 2, W. Adams. **SELLING CLASS.**—1, E. Walton. 2, T. W. Anns. 3, Rev. F. Teasle. **DUCKS.—Aylesbury.**—1, E. N. Snell. 2, J. Walker. 3, A. J. Barber. **Rouen.**—Cup and 1, J. Everett. 2, P. Unsworth. 3, J. Gee. **Black East Indian.**—1 and 3, J. W. Kelleway. 2, Duchess of Hamilton. **Any other variety.**—Cup and 1, K. R. Fowler. 2, & W. H. Silvester. 3, J. Walker. **vhc.** M. Leno. A. & W. H. Silvester. **SELLING CLASS.**—1, F. Parlett. 2, W. Bygott, jun. 3, T. Wakefield. **GESE.**—1, J. Everett. 2, E. V. Snell. 3, J. Birch, jun. **vhc.** E. V. Snell. **TURKEYS.**—1, H. J. Gunnell. 2 and 3, J. Everett.

PIGEONS.—CARRIERS.—Blue or Silver.—Cocks.—1, R. Fulton. 2, J. Baker. 3, J. E. Waterhouse. **Hens.**—1, W. Massey. 2, R. Cant. 3, J. J. Baker. **Any other variety.—Cocks.**—1, R. Fulton. 2, and **vhc.** R. Fulton. **Hens.**—1, R. Fulton. 2, J. Baker. **Young.**—1, J. Baker. 2, R. Fulton. 3, W. Massey. **POUTERS.—White.—Cocks.**—1, J. Baker. 2, R. Fulton. 3, A. Byford. **vhc.** A. Byford. R. Fulton. **Hens.**—1, R. Fulton. 2, A. Byford. 3, and **vhc.** J. Baker. **Any other variety.—Cocks.**—1, J. Baker. 2 and 3, R. Fulton. **vhc.** R. Fulton. 3, J. Baker. **Hens.**—1 and Cup, R. Fulton. 2, A. Byford. 3, J. Baker. **vhc.** J. Baker. A. Byford. **Young.**—1, R. Fulton. 2, A. Byford. 3, E. Wood. 3, E. Wood. **Any other variety.—3, R. Woods. Young.**—1 and 2, R. Woods. 3, A. Byford. **ANTWERPS.—Short-faced.**—1, J. C. Watrous. 2, H. Yardley. 3, C. F. Herrieff. **Long-faced.**—1, J. Rawnsley. 2, C. F. Herrieff. 3, S. Wade. **TUMBLERS.—Almond.**—1 and 3, J. Baker. 2, R. Fulton. **Any other variety.**—1 and 2, J. Baker. 3, R. Fulton. **Long-faced or Flying.**—1, H. W. B. Bruno. 2 and 3, J. H. Jenkinson. **BARKS.—Cocks.**—Cup, 1, 2, and 3, R. Fulton. **Hens.**—1 and 3, R. Fulton. 2, J. Baker. **Young.**—1 and 3, R. Fulton. 2, P. H. Jones. **Owls.—Feign.**—1, T. Chambers. 2, R. Fulton. 3, J. Baker. **English.**—1, J. Baker. 2, P. F. Jones. 3, H. W. B. Bruno. **FANTAILS.—1, 3, and **vhc.** J. Baker. 2, J. P. Loversedge. **TURBITS.—Cocks.**—1 and Cup, J. Baker. 2, R. Woods. 3, R. Fulton. **Hens.**—1, T. C. Burnell. 2, R. Wood. 3, O. E. Cresswell. **TRUMPETERS.**—1 and 3, R. Fulton. 2 and **vhc.** J. Baker. **JACOBINS.—Red or Yellow.**—1 and Cup, J. Baker. 2 and 3, R. Fulton. **Any other variety.**—1, T. W. Swallow. 2 and 3, J. Baker. **MACPHEES.**—1, W. T. Tedd. 2, P. H. Jones. 3, R. Fulton. **ANY OTHER VARIETY.**—1, W. T. Tedd. 2, R. Fulton. 3, P. H. Jones. **SPECIAL FLIGHTING CLASS.**—1 and 2, A. A. Watte. 3, H. Barker. **SELLING CLASSES.—Not to exceed \$2.**—1, J. Baker. 2, J. T. Barwell. 3, H. W. B. Bruno. **Not to exceed \$1 10s.**—1, R. Fulton. 2, H. W. B. Bruno. 3, A. Byford.**

MARKET HARBOROUGH POULTRY SHOW.

THE Northamptonshire Agricultural Society met this year at the above town, and the show of poultry was certainly the best we ever remember to have seen at this county's meetings. Mr. Dixon awarded the prizes and gave satisfaction to all. The first class contained nine *Dorking* cockerels, and the chosen one was a large Silver-Grey, a beautiful pullet in the next class of the same colour taking the place of honour from among nine more pullets. White *Dorkings* were very good, the three winning pullets being especially fine. *Spanish* cockerels were moderate, the winner not very firm in his comb, but otherwise good. *Game* made fairly good classes, but beyond the winners there was no striking merit. Buff *Cochin* cockerels only produced a pair, both moderate, but the pullets were better, while the Whites were excellent. The second cockerel was rather white in ears, or else the largest; and in pullets the winner was well in first. Dark *Brahmas* brought but ten entries in two classes, but the first pullet was well marked and of fair size. However, the Lights were of great quality, and we much liked the first cockerel as also the winning pullets. The *Hamburgs* made an average collection. The first Silver-spangled cockerel was very good, as was the first Silver hen. Both seconds in Spangles went to Golds; and in pullets and cockerels (pencilled) Silvers won both firsts, and Golds again the two seconds. In the third Golden-pencilled pullet we believe we recognised the second Bath bird. In the Variety classes a good Black *Hamburg* cockerel very forward in feather came in first, while a capital *Crève* won first in pullets. In *Bantams* excellent Silver-laced won both the firsts and seconds, and Black Reds both the thirds, but there were only three pens in each class. Pekins won first in the Variety class for Waterfowl, and Whistlers were second. The first *Aylesburies* were good in bills and large, and the same remark applies to the *Rouens*. The first *Turkeys* too were excellent, and the catalogue tells us they were only hatched on May morning.

In the *Pigeon* class, which had fourteen entries, a beautiful Almond was first. Third was a White Pouter, which some thought should have gone before the second Barb. An extra prize was given to an Owl, and an extra fourth to a neat Jacobin. The awards were—

POULTRY.—DORINGS.—Silver-Grey or Coloured.—Cockerel.—1, R. A. Bossier. 2, E. Snell. 3, B. Hanbury. **Pullet.**—1, R. A. Bossier. 2, E. Snell. 3, O. E. Cresswell. **Any variety.—Cockerel.**—1, E. Snell. 2, Rev. R. F. Smythe. 3, J. E. Pilgrim. **Pullet.**—1, O. E. Cresswell. 2, R. A. Bossier. 3, Rev. R. F. Smythe. **SPANISH.—Cockerel.**—1, J. T. Parker. 2, W. Nottage. **Pullet.**—1, J. T. Parker. 2 and 3, W. Nottage. **GAME.—Black or Brown Red.—Cockerel.**—1, J. Parker, jun. 2, E. T. Godsell. 3, B. Cox. **Pullet.**—1 and 2, B. Cox. 3, W.

J. Ridge. **Any other variety.—Cockerel.**—1, J. Parker, jun. 2 and 3, B. Cox. **Pullet.**—1, E. Winwood. 2, B. Cox. **COCHIN-CHINA.—Cinnamon, Buff, or Partridge.—Cockerel.**—1, C. Sidgwick. 2, E. Snell. **Pullets.**—1, C. Sidgwick. 2 and 3, C. Wright. **Any other variety.—Cockerel.**—1, B. Smith. 2, Rev. R. S. Woodgate. 3, C. Sidgwick. **vhc.** E. Snell. **Pullet.**—1 and 3, Rev. R. S. Woodgate. 2, C. Sidgwick. **vhc.** E. Snell. **BRAHMA POOTRA.—Dark.—Cockerel.**—1, E. Pritchard. 2, J. Long. 3, E. Snell. **Pullet.**—1, W. Roberts. 2, E. Pritchard. 3, J. Long. **Light.—Cockerel.**—1, P. Haynes. 2, G. B. C. Breeze. 3, Mrs. Peet. **Pullet.**—1, P. Haynes. 2, A. Bigg. 3, G. B. C. Breeze. **HAMBURG.—Gold and Silver-spangled.—Cockerel.**—1, J. Long. 2, J. Ward. 3, T. Love. **Pullet.**—1, J. Long. 2, T. Love. 3, W. Roberts. **Gold and Silver-pencilled.—Cockerel.**—1, H. Kidger. 2, E. Snell. 3, J. Long. **Pullet.**—1 and **vhc.** E. Snell. 2 and 3, O. E. Cresswell. **ANY OTHER DISTINCT BREED.—Cockerel.**—1, C. Sidgwick. 2, W. Roberts. 3, J. Long. **Pullet.**—1, W. Roberts. 2, C. Sidgwick. 3, M. Leno. **vhc.** Rev. H. R. Peel. **BANTAMS.—Cockerel.**—1 and 2, M. Leno. 3, J. Long. **Pullet.**—1 and 2, M. Leno. 3, J. Long. **GOSLINGS.**—1 and 2, E. Snell. 3 and **vhc.** T. Kingsley. **DUCKINGS.—Aylesbury.**—1 and 2, E. Snell. 3, Mrs. A. Brasse. **Rouen.**—1, W. H. Crews. 2 and 3, E. Snell. **DUCKS.—Any variety.**—1, W. H. Crews. 2 and 3, M. Leno. **POULTRY.—W. Wykes. 2, G. Stratton. 3, J. Day. SELLING CLASS.—Cock or Cockerel.**—1, Mrs. Peet. 3, J. T. Parker. J. Day. **Hens or Pullets.**—1, E. Snell. 2, Mrs. Peet. 3, J. B. Hanbury. **Drake, Gander, or Turkey Cook.**—1, J. Sheffield. 2, J. N. Beasley. 3, E. Snell. **DUCKS, Geese, or Hen Turkeys.**—1, E. Snell. 2, H. A. Lovell.

PIGEONS.—Cock or Hen.—1 and 4, H. Yardley. 2, L. Watkin. 3, T. Chambers. 5 and 6, T. W. Swallow.

CAYUGA DUCKS.

NEVER having kept Ducks until last year I do not think I am able to give an opinion as to their paying, but I must say the rapidity with which these Cayuga Ducks grow and fatten on very little food (compared with fowls) is marvellous. I was unable to keep a strict account of mine last year, but I gave a pair to a lady, and the Duck laid fifty-two eggs before sitting, and afterwards eighteen more; seventy in all.

For the table I consider they far surpass Aylesbury or any other tame breed of Duck, the flesh being far less oily and flavour more like wild Ducks. Their plumage is extremely beautiful, but any white feathers are a blemish; they should be black with a green metallic lustre.—G. M.

PROLIFIC DUCKS.—Mr. J. Bate, of Michaelstow, Cornwall, has now in his possession two Ducks, a cross between the Aylesbury and Rouen, which by the time they were fourteen months old had laid the following number of eggs:—One laid 189, ten of them being double yolks, and laid six in two days, the shells of all six were hard but not perfect, and laid fifty nights in succession; the other laid 161 eggs during the same time, and fifty-eight nights in succession.

DRIVING AND UNITING SWARMS.

THOUGH the process of driving and uniting bees has been often unfolded and discussed in our columns, I receive private letters from parties who have failed in their attempts to drive bees out of their hives, and in these letters many questions are put as to the cause or causes of their failures. As the process of driving is simple and known to be successfully practised by hundreds of apiarians, the parties who fail in their first efforts naturally want to know why their bees would not run. Whenever and wherever failure happens there has been in some way or other non-compliance with the conditions of success. We can come to no other conclusion. In cold weather bees are loth to leave their hives. Small swarms sitting in the centre of their combs are loth to leave their warm nests, and would rather not touch the outside combs or travel over them. Some hives again are only partially filled with combs. When these hives are inverted their combs stand in their centres like little cones, with their points at the farthest possible remove from the sides of the hives. During the drumming process bees naturally run upwards, and if they be driven to the tops of the pyramids of combs they can find no pathway to a higher region. When bees run up to the points of such combs and can get no higher no amount of drumming will dislodge them; but give them a ladder of some kind by which they can reach the upper hives and a very little drumming will cause them to run up. At certain seasons of the year, and September is one of them, some kinds of hives are damp or wet on their inner surfaces, and bees do not like to travel over them. The empty hives into which bees are to be driven should be dry and warm, for bees are not easily driven into cold damp hives. Other things that hinder bees from running from one hive to another in the driving process might be mentioned, but we think enough has been said to convince the reader that when bees do not run the fault is not in the principle or system, neither is it owing to the stubbornness of the bees: the fault must be in the application of the principle. The conditions of success should be well considered and understood, and whenever driving begins it should be done with vigour and without halting; the drumming should be stunning and startling enough to confound the bees and make them run without halt or hesitation. In cold weather it is advisable to sprinkle the bees with syrup about an hour before they are driven. At the end of an hour after the sprinkling the heat of the hive is much higher, and the bees are full of life and activity and quite ready for action.

In seasons like the present one, when hives are light and easily handled, we shake our bees out of their hives by a speedier process than that of driving. An hour after feeding them the bees are found setting very loosely amongst their combs. We then lift the hive gently off its board and balance it on our hands in its natural position over an empty hive. By giving the hive a sudden jerk or shake the bees are cast into the empty one. The hives have cross sticks in them, and therefore their combs are not easily shaken loose. Often we cast the bees from their hives by lifting them 2 or 3 feet and letting them drop on the mouths of the empty hives. Both hives and bees are put in motion by the law of gravitation, and when the empty hives stop the full ones, the bees go forward and fall on the bottom of the empty hives. We have not once this year resorted to the driving process in removing bees from their hives, save in the time of swarming. The bees of condemned hives were shaken and thumped out in the way described above. With bar-frame hives whose combs are moveable the bees may be easily and speedily removed from their combs by a handbrush. With such hives both driving and shaking are unnecessary. We would lift the combs out one by one and sweep the bees into an empty hive. After the crown board has been removed ten bars of combs covered with bees may be swept clean by a handbrush in a few moments.

After bees are driven or shaken out of their hives they are generally united to other stocks with a view to make them stronger. This practice cannot be too strongly recommended, and the art of uniting bees cannot be too carefully studied, for bees naturally resist invaders, and if fighting begin a fearful slaughter takes place in a very short space of time. I have seen whole swarms, containing I daresay twenty thousand bees, killed in less than an hour. The bees of the hives receiving the swarms are the butchers in these cases; very few of their own ranks are lost in these slaughterings. Failures in efforts made to unite bees result from non-compliance with some necessary preparation or condition. Strategic movements are necessary here as well as on the battlefields of contending armies. If the city is to be invaded the citizens must first be put off their guard; fill them with hilarity and joy, and put all in a state of excitement and merry-making. Good sugar syrup given in a warm state will do this. As bees know strangers by smell, it is well to prevent them from knowing strangers or invaders during the uniting process. This is done by the presence of some over-mastering substance, such as crushed mint or grated nutmeg. By feeding both swarms with syrup strongly scented an hour before uniting them, and sprinkling all after they are cast together, the union may be effected without the loss of a bee. Careful and wise generalship in the union of swarms will prevent all slaughter. The best time to unite bees is after sunset or later in a dark room or cellar, and replacing them in the garden before daylight next morning. If the hive which is to receive the swarm has no brood in it its bees could be driven into an empty hive and there kept for two or three hours. Meanwhile the other swarm could be cast amongst the combs, and afterwards the bees that were driven from them. This is rather a laborious mode of uniting bees, but it is a safe and successful one, for both swarms are cast into the city as strangers and have nothing to defend. A few days ago I had a swarm of bees weighing 4 or 5 lbs., which I divided into three lots with a view to strengthen three hives standing close by. Minted syrup was given to the hives half an hour before the bees were given to them. Two lots were well received, but in the third hive the invaders were attacked at once, and would all have been slaughtered in ten minutes if I had not shaken all the bees out into an empty hive. They were all strangers in the empty hive without disposition to fight. In the empty hive they fraternised and cemented a lasting union, and amid peace and good will they were cast back into the hive of combs from which they were dislodged.—A. PETTIGREW.

BRITISH BEE-KEEPERS' ASSOCIATION.—At the Paris International Exhibition in 1873 a large amount of space has been allotted to the above Association, on which their members may exhibit the British apian manufactures.

OUR LETTER BOX.

BATH, GRAYVILLE, WEYMOUTH, AND IPSWICH SHOWS.—Mr. Tomlinson informs us, that having sold the birds he intended exhibiting at the above Shows, his entries were not filed.

MANAGEMENT OF BRAHMAS (Anxious).—We disapprove your feeding. We dislike sharp, maize meal, and potatoes. The first is not so good as barley-meal. We never could induce our birds to eat the second. The third invariably causes disease of the liver. The grass may lessen these ill effects, and the birds seem to know it. Give them barley-meal slaked in the morning; whole corn, maize, or barley, or, if you can, kitchen scraps at mid-day, and slaked barley-meal in the evening. You will find them improve in weight, feather, and appearance. No mistake is so great as to feed on inferior food for economy's sake. If instead of measure you bought your food by weight you would generally see the most expensive food was the cheapest. You can, of course, try it by weighing, but a test is always at hand.

Take a small quantity of barley and put it in water. The expensive, if it be worth its cost, will almost all sink to the bottom; the cheaper will cover the surface of the water with light grains and rubbish.

DARK BRAHMA AND HONDAN CROSS.—"C." asks, to produce good table fowls, whether to use a Dark Brahma cock for Hondan hens, or a Hondan cock for Brahma hens, having regard both to quality of meat and early maturity for the table, as well as weight?

WASPS ENTERING HIVES (B. S.).—Wasps do not cause bees to leave their hive. Your old hive has been lost from some other cause, probably the loss of its queen. After bees have lost their queen they gradually wander away till none remain. Sometimes both bees and queen leave a hive—go off together as a swarm—from sheer starvation or from the intolerable stench of foul brood. It is not at all likely that the bees of your deserted hive entered any of your other hives. If they had attempted to do so they would probably have been killed at the door. All you can do to prevent wasps from entering your remaining hives is to contract their doors and thus enable the bees to defend their hives. Wasps never master the bees of healthy hives, though they occasionally enter them when sentinels are not on duty. The bees of healthy hives are so large and courageous that wasps dare not meet or face them in open combat.

WEAK HIVE (Norfolk).—The swarm you hived at the end of August, and which has not made much comb, is very weak indeed. If the few combs it has made are not covered with bees you would have great difficulty in keeping it alive till spring. Your better way will be to unite the bees of this weak hive to the other hive, for it, too, is doubtless in a weak state by reason of its swarming so late.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.						Rain.
1877	Baromet- ter at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil 1 foot.	Shade Tem- perature.		Radiation Temperature.		In. sun. On grass.	
Sept.		Dry.	Wet.			Max.	Min.	In sun.	On grass.		
We. 13	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.	
Th. 20	29.102	56.9	53.5	N.W.	55.9	60.3	52.2	73.7	46.7	0.04	
Fri. 21	29.821	52.2	50.1	N.W.	56.1	55.4	48.8	63.0	45.7	0.082	
Fri. 21	29.783	49.3	45.3	N.W.	54.0	58.1	38.6	105.9	34.7	0.088	
Sat. 22	29.918	48.6	45.2	N.W.	52.3	58.5	39.9	108.4	35.3	0.018	
Sun. 23	29.892	52.5	48.8	N.W.	52.2	58.3	49.6	99.8	39.8	—	
Mo. 24	31.556	51.8	47.9	N.W.	52.0	59.0	41.6	100.9	35.9	—	
Tu. 25	30.217	47.6	45.0	W.	51.0	57.1	36.1	91.1	31.3	0.093	
Means	29.974	51.8	48.0		53.5	53.1	48.0	92.3	38.2	0.205	

REMARKS.

- 19th.—Dull and grey all day and all night; no sun at any time during the day.
20th.—Dull and rainy at times, very dark all day till 5 P.M.; after that time much finer. Curious radii from the moon between 9 and 9.5 P.M.
21st.—Very bright morning, short sharp shower at 1 P.M., hail at 2.15 P.M.; fine afternoon and evening.
22nd.—Very fine and bright all day, but rather cold.
23rd.—Dull morning, but soon clearing off; dark for a short time about noon, but fine afterwards, though cold.
24th.—A very fine autumnal day, dry and bright, but rather cold.
25th.—Hazy in early morning, bright forenoon, rather dull in afternoon, and hazy after sunset.

Temperature generally about 7° lower than that of last week, partly owing to the absence of sun, and partly to the prevalence of north-westerly winds.—G. J. SYMONS.

COVENT GARDEN MARKET.—SEPTEMBER 26.

A VERY general decline has taken place in the value of foreign goods, owing to the large quantities reaching us consequent upon the high prices realised last week, otherwise there is very little alteration to quote. Kent Cobs have sold well, and with a good supply have maintained their value. Trade generally quiet.

FRUIT.

	s.	d.	s. d.		s.	d.	s. d.
Apples.....	½	sieve	2 6 to 3 6	Melons.....	each	1 6 to 4 0	
Apricots.....	dozen	0 0	0 0	Nectarines....	dozen	4 0	18 0
Chestnuts.....	bushel	0 0	0 0	Oranges.....	½ 100	10 0	16 0
Currants.....	½ sieve	0 0	0 0	Peaches.....	dozen	8 0	24 0
Black.....	½ sieve	0 0	0 0	Pears, kitchen..	dozen	1 0	3 0
Figs.....	dozen	1 0	3 0	dessert.....	dozen	2 0	4 0
Filberts.....	lb.	0 4	0 6	Pine Apples...	lb.	5 0	8 0
Cobs.....	lb.	0 4	0 6	Plums.....	½ sieve	10 0	12 0
Gooseberries..	½ bushel	0 0	0 0	Raspberries....	lb.	0 0	0 0
Grapes, hothouse	lb.	1 6	4 0	Walnuts.....	bushel	5 0	8 0
Lemons.....	½ 100	6 0	10 0	ditto.....	½ 100	0 0	0 0

VEGETABLES.

	d.	s.	d.		s.	d.	s. d.
Artichokes....	dozen	3 0	to 6 0	Mushrooms....	pottle	1 6	to 2 0
Asparagus....	½ 100	0 0	0 0	Mustard & Cress	punnet	0 2	0 4
Beans, Kidney..	bushel	2 0	4 0	Onions.....	bushel	0 0	0 0
Best Red.....	dozen	1 6	8 0	pickling.....	quart	0 4	0 0
Broccoli.....	bundle	0 9	1 6	Parsley..... doz.	bunches	2 0	0 0
Brussels Sprouts	½ sieve	0 0	0 0	Parsnips.....	dozen	0 0	0 0
Cabbage.....	dozen	1 0	2 0	Peas.....	quart	0 6	1 0
Carrots.....	bunch	0 4	0 8	Potatoes.....	bushel	8 6	5 0
Capsicums....	½ 100	1 6	2 0	Kidney.....	bushel	5 0	7 0
Cauliflowers....	dozen	2 0	4 0	Radishes.... doz.	bunches	1 0	1 6
Celery.....	bundle	1 6	2 0	Rhubarb.....	bundle	0 6	1 0
Cleworth doz.	bunches	2 0	4 0	Salsify.....	bundle	0 9	1 0
Cucumbers.....	each	0 3	0 9	Scorzonera....	bundle	1 0	0 0
Endive.....	dozen	1 0	2 0	Seakale.....	basket	0 0	0 6
Fennel.....	bunch	0 3	0 0	Shallots.....	lb.	0 3	0 8
Garlic.....	lb.	0 6	0 0	Spinach.....	bushel	2 6	4 0
Herbs.....	bunch	0 2	0 0	Turnips.....	bunch	0 5	0 0
Lettuce.....	dozen	1 0	2 0	Veg. Marrows..	each	0 2	0 4
Leeks.....	bunch	0 4	0 0				

WEEKLY CALENDAR.

Day of Month.		Day of Week.	OCTOBER 4—10, 1877.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
				Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
4	TH	Westminster Aquarium Potato Show.		63.7	42.4	53.1	6 8	5 30	2 53	2 25	27	11 22	277
5	F			60.5	40.3	50.4	6 9	5 27	4 2	4 39	28	11 40	278
6	S			61.8	43.2	52.5	6 11	5 25	5 31	4 53	O	11 57	279
7	SUN	19 SUNDAY AFTER TRINITY.		63.7	45.1	53.6	6 13	5 23	7 1	5 8	1	12 15	280
8	M			61.7	42.0	51.8	6 14	5 21	8 31	5 26	2	12 31	281
9	TU			60.7	42.4	51.5	6 16	5 13	9 59	5 50	3	12 47	282
10	W	T. A. Knight born, 1753. Oxford Michaelmas Term commences.		61.6	43.3	52.4	6 18	5 16	11 23	6 23	4	13 3	283

From observations taken near London during forty-three years, the average day temperature of the week is 61.0°; and its night temperature 42.4°.

GENERALISMS ON MILDEW.



CORRESPONDENT on page 191 of our Journal bewails the uncontrollable ravages of mildew among his Roses, and, while asking for further information, gave a number of so-called preventives and cures, which on being put to the test proved in each case, if not complete failures, yet most unsatisfactory in the general result.

The writer of the following lines, as a sufferer year after year from the same widespread cause, gladly hailed the appearance of a paragraph in the Journal headed, "Rose Difficulty." At last, he thought, I shall obtain some practical information—some probable solution of this mysterious visitation, even if a perfect cure were not to be expected; but, alas! no. The "CITY CLERK," an unmistakably zealous but inexperienced brother horticulturist, merely states his grievance, and then puts a varied string of questions, which doubtless some other correspondents will answer *seriatim*.

Perhaps, as no one has taken up as yet the subject, the following generalisms as to the nature, object, prevention, and cure of mildew may not be wholly useless. Few horticulturists of the present day require to be reminded that mildew (called after two Saxon words meaning meal dew) is in its true character a plant, a vegetable parasite; and although at the beginning of the present century its ravages were attributed to blight, honeydew, or diseases in the plant itself—to any source rather than the real one—attacks of myriads of destructive fungi, yet its fearful effects as causes of famine or pestilence both biblical and classical literature in the time of the Jews and Romans, and nearer our own time in the Middle Ages, conclusively hand down to us.

There are three different kinds of mildew—1, affecting superficially the leaf; 2, the interior of the stem or leaf; and 3, the root. It is with the first of these kinds that our gardens are mostly attacked; it may be added *en passant* that, as a rule, though not always, each species of plant has one special species of fungus at least peculiar to it.

It is of melancholy interest to notice here that of the four sub-orders of the great natural order Rosaceæ, three (one is entirely tropical) are specially liable to attacks of fungus or mildew in some form or the other. No. 2 sub-order, Chrysobalanæ, gives us through the Almond tree our Peach and Nectarine, both fruit trees, especially the former, in many situations annual victims to this pest. No. 3 sub-order, Rosæ, gives us (nursed originally in the cradle of the Dog Rose, through Rosa Gallica or Provens Rose and our old Centifolia or Cabbage Rose), the queen of flowers, alas! so often disfigured and injured by the same fell influence. No. 4 sub-order, Pomeæ, gives us among edible fruits the Apple and Pear, which suffer terribly under periodical visitations from several parasitical fungi peculiar to them.

I may mention here, in answer to the "CITY CLERK'S" question as to whether the disease on the back of the

Laurel leaves, very prevalent now in Surrey, is the same as Rose mildew, that, unusual as I believe the circumstance to be, most probably it is; at any rate the same phenomenon was observed last July in Herefordshire by several reliable individuals, where the leading shoots of neighbouring Apple, common Laurel, and White-thorn trees were discovered to be infected with precisely the same parasitical plant or fungus, first appearing as a white, but changing afterwards to a rusty-coloured mildew.

The appearance of mildew takes the form generally of white or black spots on an uneven patchy surface either as a rusty powder or frosty incrustation, in every case spreading unless checked in an early stage, and by preventing respiration crippling the growth of the flower or fruit, and causing the leaves to fall, if not the plant itself to die.

The usual period for the appearance of this widespread pest (for it is co-extensive with all animal life) is in the autumn, as with all other fungi, and it is far easier to speak of the causes that produce them than of their prevention or cure. The rapidity with which they arrive at maturity and the enormous number of seeds they produce is something incredible. One great analytical mycologist (Mr. Worthington Smith) could tell us, so as to allow us to realise some approach to the aggregate number produced, that one Mushroom was sufficient to propagate 250 millions; while only twenty-four hours is necessary with some fungi to intervene between the first springing of the plant and the ripening of the seed.

It should be remembered that it is the first kind, or superficial mildew, alluded to here, which, being as seeds communicated when ripe to the air, establish themselves on one plant after the other wherever they touch, destroying the plant with which they come in contact, as has been stated, by preventing respiration. All this is the unanswerable outcome of observation and experience, and as such matters of fact. Would that the prevention and cure of mildew could be as easily and satisfactorily disposed of.

Dr. Lindley—and his authority carries great weight—considered that as "plants are generally most affected by superficial fungi after a long drought, when the fibres of the roots are unable to imbibe sufficient moisture from the soil, and the plant becomes debilitated and affords an easy prey to the parasite which attacks it," the cure seems to be abundant watering, and assigns as a proof that in Scotland where there are heavy night dews this fungus is unknown. But surely, especially when viewed at such a humid season as the present, the subject is still left open, and many other agencies still to be considered accountable for the production of fungi besides drought. The view which seems to meet more fully the whole circumstances of the phenomena is that changes are undergone, as in the case of the Potato disease, in the cells and vessels of the leaves, say of the Rose, by cultivation (how seldom does one see mildew under any circumstances on the Dog Briar), which render the plant liable to disease: atmospheric influences, such as sudden

transitions from heat to cold, long-continued drought, or wet, as in the present year, are thus enabled to act upon them so as to cause alterations in their condition of health. Thus the attack of fungus accelerates the morbid action of the plants, which practical experience and science are alike unable to prevent or cure. Dr. Greville gives it as his opinion that "as the production of mildew is probably the result of a peculiar state of the atmosphere, there is little chance of any means being found for its prevention."

Close observation for many years leads the writer to dread the ravages of mildew most in the beginning of spring and in autumn—in the rising and ebbing of the sap—seasons when even under normal conditions the Rose under cultivation is peculiarly sensitive of variations of temperature. If healthy but not too strong plants at starting, close pruning, especially Roses on *Manettis* according to sorts, great care in not over-manuring, especially in a wet season like the present, or manuring either under ground or top surface-dressing with raw or green manure; judicious choice of situation, especially as regards free circulation of air; deep trenching, according to the nature of the soil; frequent hoseings, and copious waterings with soft water, and heavy mulchings in arid exhausting soils;—if expedients like these fail to meet the difficulty of the case (and in the writer's case and your correspondent's already alluded to they have failed), then he must confess he knows no other; for such applications as sulphur pulverised or in solution, or soot, he utterly abhors on the ground of the remedy being worse than the disease; so he will content himself with waiting for an occasional propitious season, and meanwhile keep looking through the pages of successive Journals in the fond hope of finding some successful nostrum for the prevention and cure of that hateful pest mildew, certainly not known as yet to the—HEREFORDSHIRE INCUMBENT.

OUR BORDER FLOWERS—LILYWORTS.

THE time is at hand for our selecting bulbs for the decoration of our borders, spring gardens, and other places where we may choose to place them. Various as the kinds of plants are for this purpose, I would invite attention to the family of Grape Hyacinths. They have been far too long in the background. Being natives of more genial climes than ours we may not see them in all their beauty, yet some of them have long been occupants of our borders and done us good service during the spring and early summer. We may not be favoured with such sunny skies as those charming plants enjoy in their native homes, yet we welcome them for their beauty and their fragrance. They are a very accommodating race, equally interesting in bed, border, rockery, or pots, for in or out-door decoration, and are invaluable for bouquets when to be had thriving in any ordinary garden soil. The lovely white colour of some of them, and the beautiful deep sky blue and rosy purple of others, with their delicate perfume, is a sufficient recommendation for their extensive cultivation, and being cheap withal they come within the reach of most cultivators. They may remain in the same place year after year, and will bear a good deal of rough usage into the bargain. If it is desirable to increase them the bulbs may be separated after they have perfected their growth, but they are just as well left alone. Any of our importers' lists will afford a good opportunity for making a selection and forming a collection.

For pot culture they succeed with the same treatment as the Hyacinth. Half a dozen bulbs in a 5-inch pot afford a charming display of flowers. One of the most interesting of the family is the Feathered Hyacinth (*Muscari monstrosum*), its curious frizzled cluster having a very striking appearance; it lasts a long time in flower and ought to be in all collections. *Muscari racemosum* is a very attractive plant; *M. neglectum* is still more beautiful; then we have *M. maritimum* (luteum), a real gem and deliciously perfumed; *M. candicans* with its beautiful white bells in pendant form is also an acquisition; *M. Heil-drichi* (pulchellum) is a charming plant, the queen of the race. There are many others worthy of cultivation, and which will repay any amount of care bestowed upon them.—*VERITAS*.

THE ROSE ELECTION.

THE declaration of the poll has come at last. What will it be? Will it satisfy everyone? Certainly not! Did it achieve this wonderful result, I myself should be the first to say it was useless. The old Latin proverb applies to Roses as to all other things—different men have different opinions, and if in

matters generally, why not in Roses? They suffer according to climate, they are grown in different soils, they have varying treatment. Necessarily under such circumstances the opinion of their merit here and there must differ. The election at any rate has this effect, no insignificant one—it shows from a variety of sources collected together the general opinion of their merit; and now that I have divided the merit into first, second, and third grades, it makes it the more improbable that two Roses will appear bracketed together; and the first forty-eight on the list will represent, at any rate for the present, the general opinion of the best exhibition Roses.

What, it may be asked by some, constitutes a good exhibition Rose? Dare I attempt to answer this? I can only give my own ideas. They are these: In equine matters there is an old saying, that a good horse is never of a bad colour. In Roses I would alter this, and say that the best-coloured Rose cannot compensate for bad form. It is essential, it seems to me, that in a stand say of forty-eight *form* should be the first requisite. Sometimes for the sake of diversity of colour we may, perhaps, give up the greater for the lesser attribute, but to me it would not compensate for deficiency in form. A tyro in Rose culture may perhaps imagine that a good-formed Rose in Devonshire, for instance, with its genial air, would retain its beauty of form in some of the bracing spots to be found in Wiltshire. Differences of soil and climate affect in a great degree the form of our favourites, and so one of the electors writes—"I can never depend here on Comtesse d'Oxford or Eugénie Verdier to exhibit, as they always show their centre sometimes during the day of exhibition, even if they are perfect at the time of judging, so I have not put them in my list." *Maréchal Niel*, one of the grandest-formed Roses when in perfection, has some seasons with me been hopelessly deficient, never, however, to the extent that seems to have attended the efforts of my friend Mr. Parsons of Frome, who writes—"I have now grown that Rose (*Maréchal Niel*) for many years out of doors and under glass, worked on all sorts of stocks, placed in every situation I can command, and yet I can safely say that I never yet had a bloom that was a pleasure to look at, still less one fit for an exhibition stand." This opens-up a subject to which I shall revert presently. To return to a good exhibition Rose. Next to form I should place *substance*. By substance I mean texture of petal. This should be firm and stiff though fine in quality. How many of the lighter-coloured Roses fail here, especially among the Perpetuals! *La France* on some stocks and in some situations; whilst *Comtesse de Serenyi*, *Miss Ingram*, *Duchess of Edinburgh*, and many others are soiled and injured by bad weather. In this particular no light Rose in my opinion equals *Baronne de Rothschild*. Next I would place *colour*, and lastly *stuff*. I only place this last because a good form will often hide deficiency of stuff. Some of our very best Roses would be all the better for additional petals.

And now to the subject alluded to above. Should the lists returned be the experience, each in his own situation, of each elector? or should he be allowed to enter in his lists Roses which, failing in his own, may yet attain the greatest perfection in a neighbour's garden? If another exhibition is ever carried out this point ought to be settled. Personally I consider the former the correct course, but I am afraid that some of the electors have thought differently and acted on it. The utility of these elections, it seems to me, is to show intending purchasers what in all the varying soils and climates of our isles are generally the best. If, then, an elector gives a vote founded on the experience of others this result is in some degree defeated. But I fancy I hear some enthusiastic and ardent worshipper exclaim, Let us have the state of the poll.

This requires a little longer explanation. The first column gives the position of the Rose named; next comes the name of the Rose, its variety, year of introduction, and name of raiser; * then follow the columns headed 1, 2, 3, representing respectively the votes obtained by each Rose in the first and second twelves and next twenty-four given by amateurs, then the total of such votes; the same numbers with an asterisk denote the same votes given by nurserymen; lastly, the grand total represents the whole votes received by each Rose from both sections of voters.

It is only necessary further to add that the position of any

* This list is now very nearly complete. It has been a great addition due to the working-out of the Rev. C. P. Peach's idea, and I think all growers of the Rose are indebted to him for the suggestion. There are still missing links which I should be glad to fill up; and there may be errors, for which I apologise beforehand.

Rose is decided first by the total number of votes it has received. Supposing two are equal here, then by the greater number of first-class (first twelve) votes; if still equal, by the greater number of second-class votes; failing here, they are bracketed together.

No.	Name of Rosa.	Character.	Age.	Raiser.	Amateurs.			Nurserymen.	Grand Total.
					1	2	3		
1	Marie Baumann	H.P.	1863	Baumann	31	1	0-32	12 2 0-14	46
2	Alfred Colombe	H.P.	1865	Lacharme	30	2	0-32	13 0 1-14	46
3	Charles Lefebvre	H.P.	1861	Lacharme	30	2	0-32	12 2 0-14	46
4	La France	H.P.	1868	Guillot, fils	29	2	1-32	13 1 0-14	46
Equal	Maréchal Niel	N.	1864	Pradel	28	3	0-31	13 1 0-14	45
	Baronne de Rothschild	H.P.	1867	Pernet	30	2	0-32	11 2 0-13	45
	François Michelon	H.P.	1871	Levet	24	3	4-31	13 1 0-13	45
	Louis Van Houtte	H.P.	1869	Lacharme	14	10	7-31	6 3 4-13	44
	Etienne Levet	H.P.	1871	Levet	15	11	4-30	3 4 1-13	43
	Marq. de Castellane	H.P.	1869	Pernet	16	11	4-31	4 6 2-13	43
	Madame V. Verdier	H.P.	1868	E. Verdier	11	10	8-29	3 6 4-13	42
	Duke of Edinburgh	H.P.	1868	Paul & Son	11	11	6-28	6 4 3-13	41
	Mdlle. Marie Raby	H.P.	1865	Fontaine	4	14	11-29	1 6 5-12	41
	Comtesse d'Oxford	H.P.	18-9	Guillot, père	5	13	8-28	3 7 4-14	40
15	Dr. Andry	H.P.	1864	E. Verdier	8	12	7-27	2 3 7-12	39
16	Senséur Vaisse	H.P.	1869	Guillot, père	5	7	14-26	2 5 5-12	38
17	Xavier Olibo	H.P.	1864	Lacharme	3	11	13-27	1 4 6-11	33
18	Mdlle. E. Verdier	H.P.	1869	Guillot, fils	3	8	12-25	2 3 4-9	37
19	Edouard Morren	H.P.	1869	Granger	1	7	18-26	1 2 7-10	36
20	Catherine Mermat	T.	1869	Guillot, fils	7	9	8-24	2 4 5-11	35
21	Horace Vernet	H.P.	1863	Guillot, fils	2	8	14-24	1 5 5-11	35
22	M. rgt. de St. Amand	H.P.	1864	Sansal	2	9	11-22	1 6 5-12	34
23	Emilie Hansburg	H.P.	1868	Leveque	4	10	9-23	2 2 6-10	33
24	Ferdinand de Lesseps	H.P.	1839	E. Verdier	4	4	13-21	3 4 3-10	31
25	Dupuy Jamin	H.P.	1868	Jamin	2	8	11-21	0 3 7-10	31
26	Camille Bernardin	H.P.	1865	Gautreau	7	7	7-21	0 6 8-9	30
27	John Hopper	H.P.	1863	Ward	2	8	13-23	1 2 4-7	30
28	Reynolds Hole	H.P.	1873	Paul & Son	1	9	11-21	1 1 6-8	30
29	Victor Verdier	H.P.	1869	Lacharme	0	1	13-23	0 1 5-6	28
30	Prince C. de Rohan	H.P.	1863	E. Verdier	0	6	14-20	0 1 7-8	28
31	Marie Van Houtte	T.	1871	Dauber	4	2	12-13	1 1 7-9	27
32	Capitaine Christy	H.P.	1873	Lacharme	3	5	11-18	0 2 7-9	27
33	Madame Lacharme	H.P.	1872	Lacharme	1	3	15-19	0 2 6-8	26
34	Devoniensis	T.		Curtis	3	6	4-13	4 4 5-13	26
35	Mons. E. Y. Teas	H.P.	1875	E. Verdier	3	7	8-18	1 3 4-8	26
36	Duke of Wellington	H.P.	1864	Granger	0	9	11-20	0 2 4-6	26
37	Souvenir d'un Ami	T.	1846	Belot	3	5	9-17	0 4 4-8	25
38	Pierre Notting	H.P.	1863	Fougère	1	7	8-16	0 2 7-9	25
39	Souvenir d'Elise	T.	1835	Maresca	2	3	9-14	2 5 1-8	24
40	Marie Finger	H.P.	1873	Lacharme	1	7	8-16	2 2 2-6	23
41	Marie Cointet	H.P.	1872	Guillot, fils	2	4	9-15	1 3 3-7	23
42	Fisher Holmes	H.P.	1865	E. Verdier	1	1	11-13	1 1 7-9	22
43	Monsieur Noman	H.P.	1836	Guillot, père	0	1	13-14	1 3 4-8	22
44	Comte de Serenyi	H.P.	1875	Lacharme	3	3	8-14	2 2 3-7	21
45	Sir Garnet Wolesey	H.P.	1875	Cranston	0	4	8-12	0 1 8-9	21
46	Madame C. Wood	H.P.	1861	E. Verdier	0	2	12-14	1 1 4-6	20
47	Star of Waltham	H.P.	1875	W. Paul	1	4	6-11	1 4 3-8	19
48	Annie Wood	H.P.	1836	E. Verdier	1	2	9-13	0 2 5-7	19
49	Niphotos	T.			2	7	3-12	2 1 3-6	18
50	Abel Grand	H.P.	1865	Damaizin	0	3	11-14	2 0 4-4	18
51	Prins. M. of Cambridge	H.P.	1866	Paul & Son	0	3	8-11	0 0 6-6	17
52	Hippolyte Jamin	H.P.	1874	Lacharme	1	4	6-11	0 2 3-5	16
53	Mdlle. Thérèse Levet	H.P.	1866	Levet	1	2	11-14	0 0 2-2	16
54	Dchse. of Vallombrosa	H.P.	1875	Rigotard	1	3	8-7	4 2 2-8	15
55	Madame H. Jamin	H.P.	1871	Garçon	1	1	8-10	0 1 4-5	15
56	Beauy of Waltham	H.P.	1872	W. Paul	0	5	7-12	0 1 2-3	15
57	Lord Macaulay	H.P.	1863	Ward	0	2	8-10	0 0 5-5	15
58	Maurice B. nardin	H.P.	1831		2	2	8-12	0 1 1-2	14
59	Gloire de Dijon	T.	1853	Jacotot	1	2	6-9	0 1 4-5	14
60	Duchesse de Caylus	H.P.	1864	C. Verdier	0	0	12-12	0 0 1-1	13
61	Miss Hassard	H.P.	1875	Turner	0	3	4-7	0 1 4-5	12
62	Princess Beatrice	H.P.	1871	W. Paul	0	0	7-7	0 1 4-5	12
63	Devienne Lamy	H.P.	1868	Leveque	3	1	4-8	2 0 1-3	11
64	Duc de Rohan	H.P.	1861	Lavègue	1	3	7-11	0 0 0-0	11
65	Baron de Bonstetten	H.P.	1871	Liabaud	1	1	7-9	0 0 2-2	11
66	Annie Laxton	H.P.	1849	Laxton	0	2	5-7	0 2 2-4	11
67	Thomas Mills	H.P.	1873	E. Verdier	0	2	7-8	0 0 2-2	11
68	Anguste Rigotard	H.P.		Schwartz	0	1	7-8	0 0 3-3	11
69	Belle Lyonnaise	T.	1869	Levet	0	4	5-9	0 0 1-1	10
70	Royal Standard	H.P.	1874	Turner	0	1	4-5	1 1 2-4	9
Equal	Madame Bravy	T.		Guillot, père	0	1	8-9	0 0 0-0	9
	Centifolia Rosea	H.P.	1863	Touvais	0	0	8-8	0 0 1-0	9
	Madame C. Joigneaux	H.P.	1861	Liabaud?	0	1	6-7	0 0 2-2	9

I meant to tabulate seventy-two, but the last three named must, to use a Wimbledon phrase, shoot off the tie when the competition opens again. Five Roses received eight votes, three seven votes, three mustered six votes, seven were mentioned five times, twelve four times, amongst these being Cloth of Gold with two first-class votes, eleven found three supporters, no less than twenty-five were only named twice, and to close the list, fifty-two received only a solitary vote.

All the electors are prizetakers; there are yet more whose names we should like to see, especially among the trade. Why the trade stand aloof as a body and decline to help puzzles me. Surely it cannot be that, like a village butcher,

they decline to part with a sirloin unless some of the coarser meat be also taken! I doubt whether this pays in Roses, for a man starting in Rose-growing who obtains a lot of worthless varieties is very apt to be disgusted and "throw up his Rose sponge" at once, and decline to invest further. There is another reason why I consider it bad policy for the trade to hold aloof. It is possible that amateur rosarians may reason thus: "I shall give my orders in future to those who assist us to form an opinion of Roses." It appears to me a natural result. In any case it is not, to my thinking, in accordance with the kindly feeling that the love of flowers should produce, that members of the trade should first decline to assist these elections and then advertise their ability to supply the plants that such elections have brought out as useful.

But having this year obtained our qualified electors, has it given us a more valuable result? It must be remembered in comparing this with previous elections that we have also limited the list of Roses by distinctly requiring the best exhibition varieties. It appears to my thinking that both in the first and second twelve there is no question that we have obtained a first-rate article. Both the twelves are very good, and a good stand either of the twelve or twenty-four would be always a pleasure to look at. I fear the result will scarcely please our good friend "WORLD SAVAGE," because in spite of its being an exhibition election by prizetakers the Teas are but poorly placed—Catherine Mermat No. 20, Marie Van Houtte No. 31 (I tremble as I write it), Devoniensis No. 34, Souvenir d'un Ami 37, and Souvenir d'Elise 39. In last year's election there were eight Teas in the first forty-eight. What will our Tea worshipper, or totaller I had almost written, say to this? It is perfectly true that Marie Van Houtte has made a grand jump from 44 to 31, but as a counterpoise Devoniensis in my eyes and in my soil and climate is worth all the —. But I dare not finish the sentence. I hear the rumble of the distant thunder, and like the Rose I don't like storms. But here a word to my brother amateurs. How is it that that lovely Rose has fared so badly at your hands? Glance at the list. Thirty-two amateurs only give Devoniensis thirteen votes, whilst fourteen nurserymen give it exactly the same number.

Beautiful as are the Teas, especially when partly open, I am heretic enough to say that to my eye (the fault is there, no doubt) when more expanded they often lack form. They want, in fact, to "dress-up in the centre;" many would be improved by more petals, and then, alas! when they have them, like Isabella Gray, America, and others, they often decline to unfold their charms. So I am not surprised at their position on the poll. Dear old Gloire "fat, fair," but, oh! sadly beyond "forty." I like the flavour of Tea enough to regret seeing thee No. 59. It is, indeed, a fall from 23 to 59, a fall which I cannot help saying thou dost not deserve. Query, Given the same amount of attention and care as many other Roses receive that do not give us anything like so bountiful a return, and I cannot help thinking thou art worthy of a place in the forty-eight!

The position attained by François Michelon does not surprise me. I ventured some years back to hazard the opinion that it might wrest the premiership of its year from Etienne Levet. This is the first year it has done so, but it will not surprise me to see it still higher. Some of the late introductions have forced their way early into the forty-eight, notably Mons. E. Y. Teas, Comte de Serenyi, Sir G. Wolesey, and Star of Waltham, and it is pleasant to see to two of these Roses the names of English raisers. Of the raisers it may, perhaps, interest some to analyse the forty-eight. They will find, I think, Lacharme and Eugène Verdier credited with nine each; Guillot fils, five; Guillot père, three; Levet, Pernet, Paul and Son, and Granger with two each; whilst the remainder have each one representative.

Out of the forty-six electors Mr. Walters in his list names forty-three out of the forty-eight that ultimately head the poll, whilst no less than twelve name thirty-five, the numbers gradually diminishing till we end with Mr. Scruby, who names twenty-seven. Altogether 191 Roses have been mentioned.

In concluding this portion I tender my warmest thanks to all who have assisted me by their lists. Many also have thrown out valuable suggestions. To one and all I say fervently, My hearty thanks.—JOSEPH HINTON, *Warminster*.

NEW STRAWBERRIES.

I FRUITED Traveller and Exquisite Strawberries two seasons—namely, in 1876 and 1877, and being such a complete failure

the first year had them layered in pots, and gave them a second trial this season in a different soil with no better result, and was much surprised to see them so highly praised in your Journal. We found them insignificant in size, not of the best flavour, with but a very moderate crop, while other sorts were in all respects excellent. Some other new varieties are so much inferior to many established kinds that we have not inserted them in this season's list, and they will soon follow Traveller and Exquisite.—CHARLES TURNER, *The Royal Nurseries, Slough*.

SHELTER FOR BEDDING PLANTS IN WINTER.

A CORRESPONDENT, "R. F. B.," asks for advice about makeshift contrivances for keeping Geraniums and certain other bedding plants in winter, and wishes to know if they may be wintered in a cellar, as he reads has been done. There are no doubt numerous other readers of the Journal requiring advice of a similar nature at this season of the year; let me therefore try to render this reply as comprehensive as possible, and first as to keeping Geraniums in a cellar. Now, I have seen cellars in which this could be done perfectly, for they were dry, had ample light admitted through glazed windows, and were not more than 7 feet below the surface; the Geraniums planted thickly and firmly in boxes, having no water for months, and requiring no other care than an occasional clearance of decaying foliage, keeping plump and tolerably green, yet losing most of the smallest roots—an evil soon remedied when warm weather returns and water is given again. Will my friends look about them and see if they have a similar apartment?—not necessarily a cellar so long as it is not very damp, is tolerably well lighted, and is either frost-proof or possesses facilities for the exclusion of frost. But if no such place is available I can hold out no hopes of success in a dark cellar, for to tie up Geraniums in bundles and put them aside till spring is, to say the least, a very speculative affair, and I much fear very little vitality would be found in any of them—certainly I cannot recommend the plan.

It is matter for regret that when means for winter shelter are not available undue prominence is given to Geraniums, there being so many other flowers wherewith a garden may be made gay, and which can be kept in a dormant condition throughout winter or easily protected, or, better still, be raised from seed in spring—all three methods answering "R. F. B.'s" wish "to have done with them until spring."

Among plants which may be said to lie dormant, tuberous-rooted Begonias are beginning to take a prominent position. Here in the sunny south they are left undisturbed in the beds with a covering of coal ashes or litter to keep off frost; but as "R. F. B." hails from Windermere, he and others farther north will probably succeed best by removing the bulbs from the beds into a cold frame half filled with coarse sand and coal ashes, in which the bulbs should be buried till spring, the frame being placed upon a high sheltered position where water cannot accumulate, and rough litter thrown over to exclude frost. Next come Fuchsias, sometimes left in the same place for many years. The best plan, however, for general purposes is to take them up in autumn with plenty of soil about the roots, place them close together at the foot of a wall, fence, or any sheltering nook or corner, covering them with a heap of leaves or other rough litter, and leaving them undisturbed till the return of genial weather prompts us to plant them once more in beds of very rich gritty soil for a summer display. Then there are Cannas, holding an important position for a variety of decorative purposes, and which may be treated precisely similarly to Dahlias, or, as is now the general way with the more hardy varieties, be left undisturbed for two years, with some coal ashes thrown upon the surface to exclude frost, only lifting and replanting the roots in fresh rich soil in the spring of the third year.

Calceolarias have been so much written about that it seems superfluous to add anything here, further than to note that now is the time to insert cuttings in any unheated frame or pit, watering well and shading upon bright days for a week or two, afterwards as they begin growing withdrawing the lights and exposing them fully to the air upon every fine day, taking care to cover in frosty weather. Verbenas have been wintered successfully in a similar manner, but it is questionable if it could be done in northern districts, where the snow frequently lays so long that the coverings remain on for weeks. Yet much may be done by having the pit in a snug sunny corner well sheltered from cold winds, so that every hour of genial warmth may be turned to account, it often being possible to

remove the mats and litter and open the lights, even when every surrounding object is covered with snow. The success of any such attempt to winter Verbenas will much depend upon having the plants sturdy and well rooted by October. The scarlet Lobelias are not half so much grown as they deserve, yet nothing can be more striking than the dark crimson stems and foliage surmounted by spikes of brilliant scarlet flowers. They are easily wintered by removing the stems when the flowers fade and transplanting the stools to a frame, excluding frost and keeping a close watch for snails. The crowns are divided in spring. Pentstemons may be wintered as easily as Calceolarias, and do well in the north. And then there are Violas, northern plants *par excellence*; how easily they are grown, and how beautiful they are in a moist cool climate!

Thus much for means of protection, the successful application of which will much depend upon the care and painstaking with which they are carried out. Let me in conclusion urge everybody doing their best in such makeshift fashion to give serious attention to the value of annuals easily raised from seed in spring, affording a succession of the gayest loveliest flowers from spring till winter comes again, requiring no costly glass structures or puzzling makeshift contrivances, involving no outlay for fuel, mats, or straw, and yet when well cultivated are often more really ornamental and attractive than the most costly of our much-vaunted "bedders." Stocks, Asters, Zinnias, Phloxes, Petunias, Nemophilas, Saponaria, Senecio, Marigold, Poppy, Larkspurs, Balsams, and Portulacacas, all are worthy of a place—not one of them should be excluded, and all are perfectly within the means of an amateur.—EDWARD LUCKHURST.

HARDY APPLES.

By hardy Apples I mean those which appear to have hardy blossom or which are late in blossoming, and so escape injury from the frosts of an inclement spring. The spring of the present year was one of the most unpropitious that I have

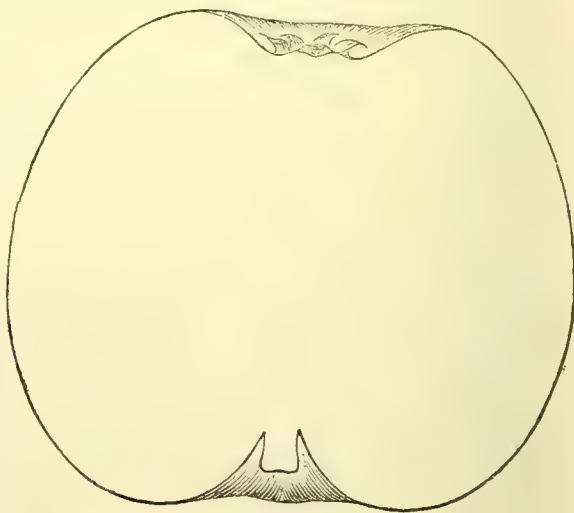


Fig. 51.—Cellini.

experienced, and the Apple crop is consequently almost a complete failure. In your answers to correspondents you mention that Cellini has proved one of the most fruitful of Apples during the present year. I am able to confirm that statement. A few years ago I planted a considerable collection of Apples. Amongst them were three trees of Cellini, and so fruitful have these trees proved that I regret that I had not planted three dozen trees of an Apple so valuable. The three trees have produced more fruit than have a hundred other trees in the same collection. This Apple is as handsome and as good as it is prolific. I send a section of a fair-sized specimen and ask you to give the prominence to it which I consider it merits by figuring it, so as to impress it the more fully on the public mind as a serviceable Apple both for home use and for market purposes. It succeeds admirably on the Paradise stock, and makes a handsome bush or pyramid.

Another Apple deserving equally honourable mention is the old Court-Pendu-Plat: this is the latest-blossoming of all Apples, and I have never known it fail to set a full crop of fruit. As there is more than one variety cultivated under the same name, I ask you to engrave the section of the true old short-stalked variety as one of the most distinct, certain, and valuable of late dessert Apples.

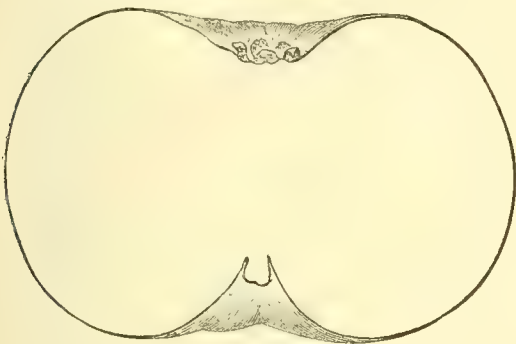


Fig. 52.—Court-Pendu-Plat.

Other Apples which have proved exceptionally hardy during the present trying season are Cox's Orange Pippin, King of the Pippins, Stirling Castle, and Hawthornden.

I did not include Hawthornden in the list sent to Mr. Killick on account of its liability to canker on light soil; but on good soils it is extremely useful. I now ask Mr. Killick to place a double asterisk against the five sorts now named which are included in the list which I forwarded some months ago to Mount Pleasant, Langley, Maidstone.

This is the worst of all seasons for an Apple election, and I do not anticipate a large number of entries; still I hope if those who are able to do so will send lists to the address named of the best fifteen kitchen and fifteen dessert Apples valuable information will be forthcoming, especially if the sorts are marked which have best resisted the destructive frosts of the late inclement spring.—A NORTHERN GARDENER.

ROYAL HORTICULTURAL SOCIETY.

OCTOBER 2ND.

WE have to report an extensive, varied, and excellent meeting—one of the best that has been held for some time. Plants were not largely exhibited, but a collection of *Nepenthes* and insectivorous plants from Messrs. James Veitch & Sons afforded a rich treat by their great variety, singular forms, and excellent condition. Tuberous *Begonias*, Tree *Carnations*, double *Primulas*, bud blooms of *Roses*, *Dahlias*, and *Gladioli* contributed brightness to the Council-room. Fruit was also exhibited in superior condition, notably *Grapes* and *Pine Apples*, while *Cucumbers*, *Potatoes*, *Cauliflowers*, and *Watercress* in pans were well represented amongst vegetables.

FRUIT COMMITTEE.—Henry Webb, Esq., Vice-President, in the chair. Three splendid Smooth-leaved *Cayenne Pine Apples*, weighing respectively 9½, 9½, and 9½ lbs., were sent from Her Majesty's Gardens, Frogmore, and the Committee recommended that a silver Banksian medal be awarded to Mr. Jones the gardener. Mr. R. Hutton, The Gardens, Crown House, Southampton, sent two fairly grown *Providence Pines* under the name of *Charlotte Rothschild*; a vote of thanks was awarded. A cultural commendation was awarded to Mr. Jones, Bentley Priory, Stanmore, for a very good *Charlotte Rothschild Pine*, weighing 8½ lbs., from a plant not eleven months old.

A very fine collection of eight sorts of *Grapes* was sent from Messrs. Lane & Sons, Great Berkhamsted, Herts. It comprised fine examples of *Muscat Hamburg*, *Black Hamburg*, *Muscat of Alexandria*, *Gros Colman*, *Golden Queen*, *Mrs. Pince*, *Alicants*, and *Trebbiano*. The Committee unanimously recommended that a silver-gilt medal be awarded for them. Mr. R. Gilbert, The Gardens, Burghley, Stamford, sent two very fine bunches of *Gros Colman* with immensely large berries; a bronze medal was voted for them. Mr. Harrison Weir, Weirleigh, Brechley, Kent, sent *Muscat Champion* and *Venn's Black Muscat Grapes*, grown without the aid of fire heat. The specimens of *Muscat Champion* were very fine indeed, and they were recommended to the Council for a medal. From the Society's garden, Chiswick, came very good examples of *Frankenthal Blanc*; the berries were similar to the black sort, and the flavour sweet and refreshing. Mr. Barron also sent a collection of *Peaches* from the open wall; the fruit was remark-

ably well grown. *Belle Imperiale* was handsome and well flavoured. *Desse Tardive* is also an excellent late sort, but was not so well flavoured. *Osprey* is a yellow-fleshed sort, but of indifferent flavour. Mr. J. Tranter, Upper Assenden, Henley-on-Thames, sent a seedling *Gooseberry*, the fruit almost black, but the flavour was quite gone.

Mr. C. Tyler, gardener to R. Gosling, Esq., Hassobury, Bishop Stortford, sent a green-fleshed *Melon* named *Exquisite*. It was very fine indeed, and the Committee asked to see it again when quite ripe. Mr. E. Bennett, The Nurseries, Rabley, Herts, sent a scarlet-fleshed *Melon*, a cross between *Little Heath* and *Read's Scarlet-flesh*. It is a fine-looking *Melon* and will be a good market variety. Mr. Allan, The Gardens, Gunton Park, sent a scarlet fleshed *Melon* named *Royal Ascot*, of fair flavour. Messrs. Carter & Co., 237 and 238, High Holborn, London, sent a new type of *Melon*, deeply ribbed and with long-shaped fruit. The flavour was very good, and the flesh scarlet. It is very promising. The Committee wished to see it again. The same firm sent a new *Capsicum* with fruit as large as a medium-sized *Mangold Wurtzel*, and of a very rich scarlet colour. It was named *Giant Emperor*. Besides this there was a large collection of other sorts, comprising *Yellow Tomato*, the *Large Bell* or *Bull Nose*, *Purple*, &c. The Committee voted a letter of thanks and a cultural commendation.

A dish of *Garibaldi Strawberry* was sent by Mr. E. Bennett, and a dish of *Vicomtesse Héricart de Thury* from Mr. Allen; both dishes received a cultural commendation, and in all respects they appeared identical. A seedling *Apple*, *Lord Home*, was sent from Messrs. Harrison of Leicester; it is a kitchen sort of no apparent merit. Mr. Louis Killick, Mount Pleasant, Maidstone, sent examples of a kitchen *Apple* named *Stone Apple*. The fruit is of large size, and well merited the first-class certificate awarded to it. A dish of *Swanley Pippin* was sent from Mr. H. Cannell of Swanley, but it was not thought worthy of an award. Mr. Howle, Eleanor Road, Waltham, sent a dessert *Apple* named *Howle's Seedling*, but it was not thought an improvement on established sorts.

Mr. J. Lovey, gardener to G. Dixon, Esq., Gothenburg, Sweden, sent a very fine collection of *Pears* which had been grown in pots under glass. The fruit was very fine indeed, and equal to the best *Jersey Pears*. The collection comprised thirty varieties of all the most approved English varieties; also a collection of *Apples* splendidly grown, and two dishes of *Grapes*. The Committee unanimously agreed in recommending the collections for a gold medal. One hundred varieties of *Apples* were sent from the nurseries of Messrs. W. Paul & Son, Waltham Cross, comprising the usual well-grown examples for which this firm is noted. A letter of thanks was voted, and a bronze medal was recommended to be given for the collection.

A seedling *Onion* resembling *Bedfordshire Champion* was sent by Mr. Allen, but was not considered to be sufficiently distinct. A basket of very fine *Brussels Sprouts* was sent by Mr. Gilbert, but the Committee expressed a wish to see the sprouts as grown on the stem. Mr. C. Turner, The Royal Nurseries, Slough, sent a new white kidney *Potato* named *Early Bird*. The tubers were very clear on the skin, and remarkably handsome in shape, but it is a rule not to certificate *Potatoes* as shown in small dishes; it was therefore voted to be sent to Chiswick. A collection of *Cucumbers* was sent by Messrs. Kelway of Langport, but none of them were in condition. Mr. Miles, gardener to Lord Carington, Wycombe Abbey, exhibited ripe and well-coloured *Black Hamburg Grapes* from the same Vines from which ripe fruit was cut and exhibited in January of the present year. Col. Trevor Clarke exhibited a seedling *Grape* resembling the *Black Hamburg*; and a collection of upwards of forty varieties of *Nuts* was sent from the Society's Gardens at Chiswick.

FLORAL COMMITTEE.—G. F. Wilson, Esq., F.R.S., in the chair. Messrs. Veitch's grand collection of *Nepenthes* and insectivorous plants first merits notice. It was composed of about twenty species and varieties of *Nepenthes*, besides a remarkable display of *Darlingtonias*, *Sarracenias*, *Droseras*, *Cephalotes*, &c. Among the *Nepenthes* were admirably grown specimens of *N. Hookeri*, *N. Rafflesiana*, and *N. Cheloni*, with smaller plants of the *Chelsea* hybrids and some rare species. First-class certificates were unanimously awarded to three new varieties—namely, *N. hybrida maculata elongata*, its splendid long dark pitchers being very striking; *N. Courtii*, distinct and extremely fine; *N. rubra maculata*, dwarf, sturdy, free, and richly marked. We noticed also *N. intermedia*, very rich; *N. zeylanica rubra* from Ceylon; *N. Kennedyana* from North Australia, and the small but distinct *N. albo-marginata*. Amongst the *Sarracenias* *S. Cheloni*, the result of a cross between *S. rubra* and *S. purpurea*, was extremely rich and distinct. This valuable and unique collection was recommended for a gold medal, a distinction that it fully merited, for novelty was combined with rarity and grotesque beauty, and skilful cultivation was stamped on every plant.

Mr. Turner, The Royal Nurseries, Slough, exhibited winter-flowering *Carnations* in 5 and 6-inch pots. Too much praise

cannot be given to these plants for conservatory decoration, they are both beautiful and sweet. A first-class certificate was awarded to Osman Pasha, vermillion scarlet, smooth, and extra fine. The other varieties were Rose Perfection, Red Dragon, Mazeppa, Miss Joliffe, and Sir Garnet Wolseley. A vote of thanks was awarded. Mr. Turner also exhibited a splendid collection of Pompon Dahlias in upwards of fifty varieties. A glass stand in three tiers was also arranged with these miniature Dahlias and Ferns, showing how admirably they are adapted for that purpose of decoration. A vote of thanks was awarded for this arrangement. These early, free-flowering, and attractive Dahlias are not sufficiently grown in gardens. The collection was highly commended by the Committee. Messrs. Rawlings, Brothers, Romford, received first-class certificates for show Dahlias James Willing, crimson maroon, rich, and of excellent form; and Mrs. Shirley Hibberd, creamy white, faintly tipped with rosy purple, also of good form.

Messrs. William Paul & Son, Waltham Cross, Herts, exhibited an admirable collection of Roses in nearly a hundred varieties, including the new Rose May Quennell, very fine, and was awarded a vote of thanks.

Mr. Gilbert, Burghley Gardens, Stamford, exhibited four of his fine double Primulas, to three of which—Mrs. Barron, French white mottled with rose; Princess, pinkish white mottled and faintly striped with purple and white; Lady, fine pure white—first-class certificates were awarded. Lady Louisa, purplish crimson, was also very fine. These Primulas are remarkable for their fine flowers and the free and vigorous growth of the plants.

Messrs. Kelway & Sons, Langport, Somerset, exhibited a collection of Gladioli in varied colours and with the fulness of spike which characterises the best varieties of this renowned firm. A first-class certificate was awarded to Rhamnes, rich full scarlet with maroon bar and purplish rayed throat; very striking.

Mr. Roberts, gardener to Baron Rothschild, Gunnersbury Park, Acton, exhibited *Odontoglossum Rothschildi*, a richly spotted variety of *O. crispum*, distinct on account of the blue tint which suffused the flowers. A vote of thanks was awarded.

Messrs. Bell & Son, The Nurseries, Norwich, exhibited tuberos Begonias with bright flowers and the veined foliage of *B. Pearcei*; also a crested *Adiantum*—*A. Capillus-Veneris corymbiferum*. Messrs. Froebel & Co., Zurich, also sent tuberos Begonias. Mr. Cannell exhibited a compact plant of his Perfection French Marigold and bedding *Lobelia Defiance*, reddish purple in colour and very promising. Mr. Noble, Bagshot, submitted trusses of his new Rose Queen of Bedders, very rich and floriferous. Mr. Woollett, nurseryman, Caterham, sent *Cupressus Lawsoniana plumosa argentea*; Messrs. Stewart and Sons, Dundee, a purple-leaved Norway Maple. Mr. G. F. Wilson exhibited sprays of *Escallonia Pterocladon*, a white-flowered species, very attractive; Mr. Green, gardener to Sir G. Macleay, Pendell Court, Bletchingley, sent a plant of *Eryngium serra*; and from the gardens of Viscount Bridport, Cricket St. Thomas, Somerset, was sent the stem of an *Heliotropium peruvianum*. The plant was planted in 1837, and covered 700 square feet of the conservatory wall. The stem was about 4 inches in diameter and covered with rough bark. The meeting was largely attended by horticulturists.

INTERNATIONAL POTATO SHOW,

ROYAL AQUARIUM, WESTMINSTER, OCTOBER 3RD, 4TH, AND 5TH.

In extent the Show is perhaps not equal to the Exhibition of last year. The collections are arranged in the south and end galleries of the building, but the space is too limited for such a large exhibition being inspected with comfort. In quality—that is, uniformity of size of the tubers, and that size generally acceptable for table purposes, and for excellent shape, we unhesitatingly pronounce the Show a great advance on previous displays: it is, in fact, the best Exhibition of Potatoes that has probably ever been arranged. A few coarse tubers there undoubtedly are, and others not clear in the skin, but they are much less numerous than on former occasions. The Show opened in a dense London fog; the arrangements also appeared to be a little "foggy," for they were not completed for some hours after the appointed time. Time only permits our giving the awards and the names of the first-prize varieties.

The first class in the schedule is a somewhat imposing one, the prizes given by the Royal Aquarium Company being £12 12s., £8 8s., £5 5s., £3 3s., and £2 2s. for twenty-four varieties of Potatoes, nine tubers of each. There are thirteen competitors, the awards going as follows:—First to Mr. Peter McKinlay, Woodbine House, Beckenham; second to Mr. W. Finlay, gardener to Col. North, Banbury; third to Mr. Pink, gardener to Lord Soude, Faversham; fourth to Mr. Ironside, Keith Hall, Inverurie; and fifth to Mr. R. Dean, Ealing. Mr. McKinlay's splendid collection consists of Porter's Excelsior, Onwards, King of Potatoes, Climax, Brownell's Superior, Breadfruit, Purple Ashleaf, Early King, Grampian, Early Rose, International Kidney, Schoolmaster, Model, Salmon Kidney, Rector of Wood-

stock, Blanchard, Taylor's Seedling, Garibaldi, Alexandra Kidney, Late Rose, Snowflake, Emperor, Ashtop Fluke, and last but not least, a fine new kidney named Royal Aquarium.

In the next class Messrs. Sutton & Sons, Reading, provide a silver cup value £10 10s. as the first prize for eighteen varieties, nine tubers of each, open to gentlemen's gardeners and amateurs only. The second prize of £6 6s. is given by Mr. John Coutte, James Street, Covent Garden, and the third prize of £4 4s. by Mr. James Crute, Watling Street, London. Eighteen collections are staged, the awards being as follows:—First to Mr. W. Porter, King Street, Old Meldrum; second to Mr. Donaldson, Inverurie, Aberdeenshire; third to Mr. G. Bagerley, Syerstone Lodge, Newark; fourth to Mr. James Pink, Faversham. The cup collection contains splendid dishes of kidneys Bountiful, Improved Ashtop, Fluke Crimson Walnutleaf, International Kidney, Napoleon, Snowflake, Meldrum Conqueror, Blue Ashleaf, Albion Kidney; and of rounds—Blanchard, Rector of Woodstock, Grampian, Climax, Early Emperor, Blue Prince, Bresee's Prolific, and Porter's Excelsior.

Messrs. James Carter & Co., High Holborn, give all the prizes in the class for twelve varieties. The first prize of £6 6s. is secured by Mr. James Pink; the second, third, and fourth prizes going respectively to Mr. Charles Ross, gardener to C. Eyre, Esq., Newbury; Mr. William Finlay, gardener to Col. North, Banbury; and Mr. C. C. Cornfoot, gardener to J. Tassell, Esq., Faversham. There are seventeen competitors. The first-prize collection contains handsome dishes of Berkshire Kidney, Garibaldi, Snowflake, Bresee's Prolific, Early Rose, Coldstream, Waterloo Kidney, Red Emperor, Ruby, Birmingham Prizetaker, Early Goodrich, and Schoolmaster.

The Lawson Seed Company, Edinburgh and London, provide the first prize of £6 6s. in the class for nine varieties, which is won by Mr. R. Dean, Ealing, the remaining prizes going to Mr. Peter McKinlay; Mr. Ellington, Mildenhall, Soham; and Messrs. Lott & Hart, Whitehill Nursery, Faversham, in the order of their names. Mr. Dean's collection contains Climax, Blanchard, Salmon Kidney, International Kidney, Excelsior Kidney, Grampian, Extra Early Vermont, Purple Ashleaf, and King of the Potatoes, all of great excellence. Eighteen competitors.

The first prize in the class for six dishes is a silver cup value £5 5s., provided by Messrs. Daniells Brothers, Norwich. It is won by Mr. W. Finlay, Banbury. The second prize, given by Mr. C. Quincey, Peterborough, is secured by Mr. Ellington; Mr. Ironside, Keith Hall, Inverurie, being placed third; and Mr. Miller, Newbury, fourth. The winning dishes are extremely fine. They comprise Snowflake, Scotch Blue, Edgcott Seedling, Blanchard, Magnum Bonum, and Walnut Kidney; a fine class of twenty-three competitors. Mr. Pink's collection is highly commended; and Mr. Jones, Broughton House, Mr. Osman, Sutton, Surrey, and Mr. Gilbert, Burghley, are commended in this class.

Messrs. Wheeler & Sons, Gloucester, provide the first prize of £3 3s. in the class for four dishes, two of round and two of kidney varieties; and Mr. Cockburn, Falkirk, the second prize. There are twenty-three competitors, the awards going as follows:—First Mr. F. Miller, gardener to J. F. Friend, Esq., Margate; second Mr. J. Denyer, Penge Road, Beckenham; third Mr. George Donaldson, Inverurie, Aberdeenshire; fourth Messrs. Lott & Hart, Faversham. The first-prize collection consists of Ashtop Fluke, Breadfruit, Blanchard, and Snowflake.

In the class for four dishes, distinct, new varieties not in commerce, or in commerce for the first time this year, all the prizes are provided by Messrs. Hooper & Co., Covent Garden. There are twelve competitors, the first prize being won by Mr. James Pink with Superior, a fine red variety; Handsworth Superior, Seedling No. 2, and Covent Garden Perfection; second Mr. R. Dean with International Kidney, Radstock Beauty, Bedford Prolific, and Garibaldi; third Messrs. Lott and Hart. No name was attached to the fourth-prize collection, which consists of very fine examples of Ice Cream, Centennial, Telescope, and Heather-bell.

Messrs. Charles Lee & Son, Hammermith, provide the prizes in the class for two dishes, one round and one kidney. There are twenty-six competitors. Mr. R. Dean is placed first with International and Schoolmaster, very fine indeed; Mr. Miller second, and Mr. W. Howerd, Bridge, Canterbury, third; and Mr. R. Farquhar fourth; all exhibiting well.

All the prizes for the best dish of any white round Potato are given by Messrs. Harrison & Sons, Leicester. There are twenty-three competitors, the prizes being awarded in the following order. First, Mr. Robert Ironside, Ingleston, Inverurie, N.B., with Rector of Woodstock; second, Mr. Pink with Early Goodrich; third, Mr. J. B. Hall with the same variety.

Mr. B. S. Williams, Holloway, provides the prizes in the class for the best dish of any coloured round Potato, and they are awarded in the following order—first to Mr. Pink with Red Emperor, second to Mr. R. Dean with Radstock Beauty, and third to Messrs. Lott & Hart. Twenty-eight competitors.

In the class for the best dish of any white kidney Potato the

prizes are provided by Mr. Charles Turner, Slough, and are won—first by Mr. Miller with Yorkshire Hero, second Mr. W. Finlay with Lapstone Kidney, third Mr. Thos. Wraight, gardener to Major Curtess, Rye, Sussex, with Jackson's Kidney. Twenty-one competitors.

Messrs. James Cutbush & Son, Highgate, give the prizes in the class for the best dish of any coloured kidney variety. There are twenty-one competitors, with the following result:—First, Mr. J. S. Evenden, Longfield, Dartford, with Superior; second, Messrs. Virgo & Son, nurserymen, Guildford, with Early Vermont; third, Mr. James Pink, also with Early Vermont.

In the class for the best dish of Snowflake the prizes are given by Messrs. Edward Webb & Sons, Wordsley, Stourbridge. The awards are—first, Mr. Pink; second, Messrs. Bliss & Sons; third, Mr. R. Farquhar, gardener to Col. W. C. Gordon of Fyvie. Twenty-one competitors.

Mr. J. Cattell, Westerham, provides prizes for the best dish of Ruby Potato, which are won as follows:—First, Mr. Chas. Ross, gardener to C. Eyre, Esq., Newbury; second, Messrs. Lott & Hart; third, Mr. Pink. There are ten competitors.

For the best dish of Porter's Excelsior the prizes are given by Messrs. Thomas Gibbs & Sons, Down Street, Piccadilly. The successful competitors are—first, Mr. Pink; second, Mr. Ross; third, Mr. John Belliss, gardener to Major Thoyts, Reading. Nine exhibitors.

The last class in the schedule is for the best dish of Schoolmaster, the prizes being given by Messrs. Barr & Sugden, 12, King Street, Covent Garden. There are eight competitors, with the following result:—First, Mr. J. B. Hall, Gillingham, Kent; second, Mr. E. Bennett, Enville, Stourbridge; third, Mr. T. Worsfold, Horsham.

The varieties named in the four last classes are for some reason or other excluded from competing in the other classes for single dishes.

In the Miscellaneous classes Messrs. Sutton & Sons, Reading, exhibit a fine collection of Magnum Bonum; Messrs. James Carter an imposing stand of 180 varieties, including some superior produce from Sandringham; Mr. Turner, Slough, splendid examples of Schoolmaster; and Messrs. Daniels, Bros., Norwich, a sensational stand containing five hundred named varieties. Mr. Porter, Old Meldrum, also stages a fine miscellaneous collection. Messrs. Kelway exhibit Gladioli, and Mr. Turner Pompon Dahlias. The Exhibition, which continues until Friday evening, is highly worthy of extensive patronage.

NOTES AND GLEANINGS.

A FULHAM CORRESPONDENT writes:—"On the morning of the 25th ult. we had a foretaste of winter; the thermometer registered 6° of frost, and the gardens about here presented the aspect of Christmas. We have recently had dense fogs until about midday. Crops are beginning to show symptoms of drought—for instance, Savoy, Spinach, and other green crops are suffering for want of rain."

It may be interesting to some of your readers to know that quite one-half of the enormous crop of Tomatoes in the market gardens about Fulham were destroyed by the disease, which seems to be becoming an annual occurrence. But with this loss the firm of Messrs. Bagley have been sending to the market one thousand baskets of Tomatoes per week, three baskets being equivalent to a bushel. The plants are grown in the open fields and are trained to short stakes.

A CORRESPONDENT, "G. C.," states that for the last three years he has washed his Potatoes at the time of taking them up, as he can then pick out the bad tubers much better. When the sound tubers are thoroughly dry he stores them away, and has not found 1 per cent. go bad afterwards. The kinds grown are Haigh's Kidney, Mona's Pride, and Paterson's Victoria.

We have received from Mr. Joseph Bentley, Lincoln, heads of VEITCH'S AUTUMN GIANT CAULIFLOWER. They are admirable examples of culture of one of the most valuable of autumn vegetables.

WATERCRESSES.—At the meeting of the Royal Horticultural Society on Tuesday Mr. Shirley Hibberd of Stoke Newington exhibited a dozen pans of Watercresses, grown in the manner he has practised and recommended for some years past. One of the advantages of this system is that the plants are under complete control to be placed in the sun or the shade, or during winter in heated plant houses, and can at all times be supplied with pure water, and thus be preserved from contamination by the pollutions common to rivers, brooks, and even Watercress beds. The pans in which the Cress is grown measure from 15 to 20 inches across, and from 6 to 9 inches deep. The pans are filled with rich loamy soil intermixed with lumps of chalk or old mortar, and then very small

cuttings are inserted. These soon become strong plants, and in from fifteen to twenty days they may be gathered from, the produce being tender and delicate in flavour, and of the most beautiful appearance. The twelve pans shown have been regularly gathered from for the table for a period of six weeks, and their fresh and robust appearance indicated that they might be cut from for another six weeks without being exhausted.

ONE of the most attractive and elegant of variegated plants of easy culture is *HEMEROCALLIS FLAVA VARIEGATA*. We recently observed it at the Crystal Palace, where Mr. Thomson had it in excellent condition and regarded it favourably as a table and general decorative plant. Its leaves are clearly striped and arch in a pleasing manner. It was growing in a warm greenhouse, and the temperature appeared to suit it admirably.

In the south of Devon the BEECH TREES are loaded down to the ground with nuts. I never saw such a bearing before. The trees have an elegant appearance, and the squirrels have a fine time of it, for not only the Beech-nuts but the Hazel-nuts are abundant; but acorns are very scarce.—SOUTH DEVON.

MR. HARDING, gardener to the Rev. W. Arthur, Clapham Common, has, we are informed, been appointed to the charge of the Dowager Marchioness of Huntley's garden at Orton Langueville. Mr. Harding is known as a successful exhibitor of Chrysanthemums and vegetables at the Royal Horticultural Society and other metropolitan shows, and he is an occasional contributor to the columns of this Journal.

NOTES FROM CORNISH GARDENS.

TREGOTHNAN, THE SEAT OF VISCOUNT FALMOUTH.

"DOWN a shady vale" passes the road by which I went to Tregothnan. Lofty trees shut it in and overhang it; not those awe-inspiring "monarchs of the forest" which we admire—almost worship, but a motley crowd of wildings with just enough fine trees among them to show that neither soil, climate, nor trees are at fault, but that man's fostering care is wanting; not that we should like to see an ardent improver let loose upon the woods, for the trees are so lofty and so old that sound judgment, practical skill, and an artistic eye are now more requisite for their treatment than when they were younger. They afford proof that a judicious clearance of weakly growth is a fundamental rule of forestry to which due weight is not given, although it is fraught with such momentous consequences. Why do I dwell upon this wooded valley, and not hasten at once to the gardens to which it leads? Because it is literally a garden itself—just one vast fernery, such as I had never seen before. On all sides—from the road down to the margin of the stream, away up the steep and undulating slopes far as the eye can reach among the soft light of Nature's arcades—there are thousands of Ferns, most of them magnificent specimens of elegant form and extraordinary size, for they are not all crowded together in one continuous mass, but are dispersed in clumps and singly in a wild but charming manner, sometimes clothing an entire slope with their charming frondage, and frequently, much more so than is usual, standing out alone on little hillocks and promontories, showing their large size and graceful proportions in a way as striking as it is singular and pleasing. I had no idea that Scolopendriums would grow to such a size as I saw them here by hundreds. The plants were doubtless very old, each having some dozens of glossy green fronds—long, broad, and recurved—springing from the crown in circles, drooping gracefully outwards tier above tier, forming such large bold tufts as to worthily rival the grand old specimens of *Laetrea Filix-mas*, the *Polystichums*, and *Osmundas* with which they are intermingled. Right up the stems of many of the trees and along the branches 50 or 60 feet from the ground *Polypodium vulgare* was growing in perfect health, imparting to the trees an odd sort of Jack-in-the-green appearance, more curious than beautiful.

Well, my walk from Lamorran to the gardens of Tregothnan was among those wonderful Ferns for the greater part of the way; it was therefore a pleasant walk, and when I reached the gardens another extraordinary sight awaited me at the very entrance—an avenue of Camellias, or rather a double row of them standing out upon the turf on each side of the path which swept onwards into the interior of the shrubbery. Every plant was a perfect specimen—globular in outline with the foliage large, green, glistening with health, and so dense as to conceal every trace of branch and stem. I have applied

the common term of plant to them, but it is inappropriate, for they are veritable shrubs 4 or 5 feet high and as much in diameter. So perfect in every point are they that one hesitates to criticise, but duty compels me to say that the arrangement is a mistake; the formal aspect of such long lines robs the scene of that grace which it ought to possess, and which might be so easily imparted to it by throwing the Camellias into clumps—some standing out in large circles upon the turf, others spreading backwards in long flowing curves to meet and blend with the shrub borders behind. The scene would then be magnificent and unique, few if any gardens in this country containing such a number of Camellias growing in the open air.

Beyond the rows of Camellias the lawn opens out into a bold ascending semicircular expanse on one hand and downwards over slopes on the other. Numerous shrubs and trees fringe the boundaries and stand out upon the turf. Many of them

are excellent specimens, notably some Camellias arranged with the happiest effect in a bold group upon the semicircular lawn. Here too are Rhododendrons, many of them seedlings of arboreum and other species raised by Mr. Boscawen, and bearing the impress of his handiwork in the large foliage and vigorous growth peculiar to all the Lamorran seedlings. Some dwarf Fan Palms planted out here are in excellent health, and are evidently making steady progress upwards. One day they will no doubt be regarded as a feature of prime importance. They are worthy of all care, and it is matter for regret that the largest of them all—a really fine *Chamærops Fortunei*—is almost lost to view in an odd angular nook, which might easily be opened out and converted into a semicircle. A much more prominent position has been given to a remarkable specimen of what I believe to be *Acacia dealbata*, nearly 30 feet high. In making this statement I am well aware that

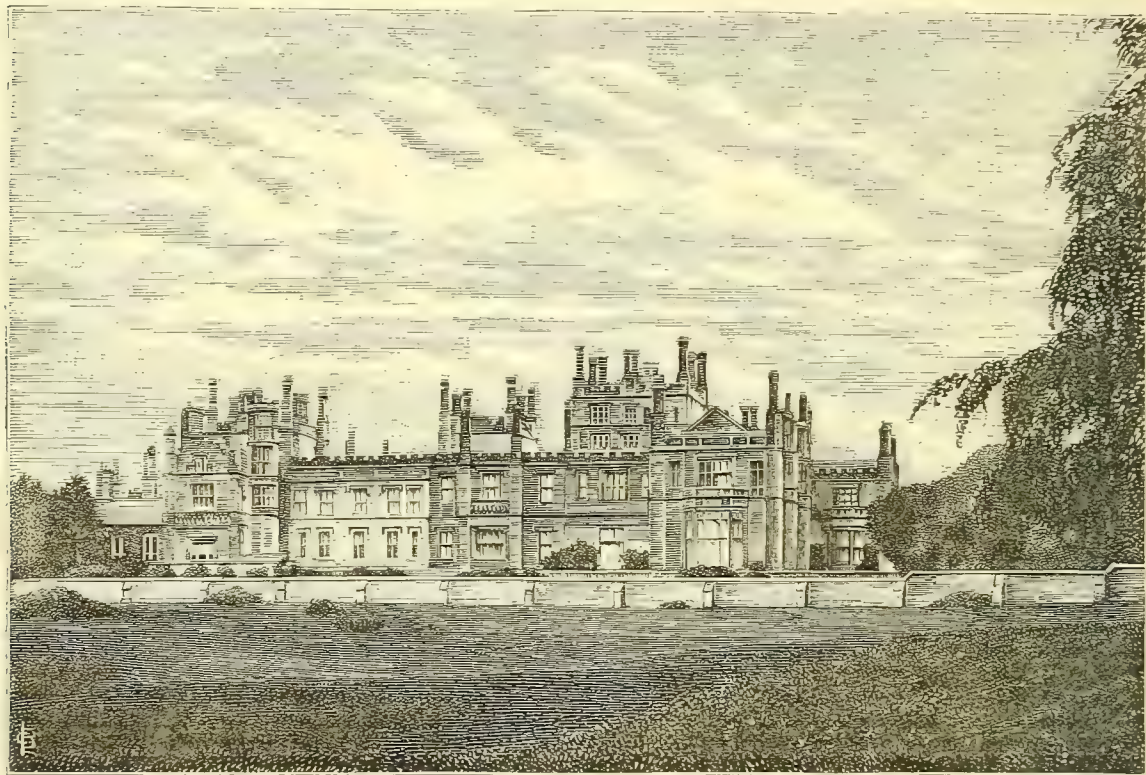


Fig. 23.—TREBOTHNAN.

exception will probably be taken to it; there, however, stands the tree—an undoubted *Acacia*, and my attention was called to it as a fine example of the Green Wattle *Mimosa*—*A. affinis*. Whether it may ever be proved to be another variety is not, I think, so important as the actual fact of an Antipodean *Acacia* having attained to such proportions in the open air.

Many varieties of Conifers planted near this lawn with choice deciduous trees have thriven, but the growth is becoming sadly crowded. Another evil that is telling upon some of the best specimens is a want of adequate shelter, the growth being perfectly healthy till it gets above the surrounding trees and then it dies—killed by cold winds, and, of course, the tree is spoilt. *Picea Nordmanniana*, still unscathed, is very handsome; *Picea Webbiana* is not healthy, and is bearing cones freely; *Pinus pseudo-strobus*, with pendant clusters of very long foliage, is distinct and striking; it is worthy of culture wherever it will grow as it does here, but unfortunately it is rather tender, which accounts for it being so seldom seen. A *Pinus Montezumæ* exhibited in a striking degree the effects of frequent removal in its stunted, weakly, shrub-like growth. When a tree of 12 feet and upwards is transplanted it requires four or five years before it is thoroughly established in its new quarters, repeated liftings affecting it so much as to gradually change its character from a fast-growing timber tree to a stunted shrubby nondescript, hence the importance of care and sound

judgment in the selection of the permanent position of a tree and in planting it there when quite young.

A walk winding among shrubs leads upwards and onwards to one of the most important features of the gardens—an extensive lawn on a gentle slope with enclosing belts of shrubs, which sweep downwards from a broad walk at the top in bold curves, gradually converging till they meet and blend with other shrubs, clothing the side of a valley which this lawn commands. The broad walk along the top is a quarter of a mile in length in a straight line, having a seat of massive slabs of granite at one end, and at the other a piece of statuary, very ineffective when viewed from the seat, and which might advantageously be replaced by an obelisk or a group of statuary bolder and more massive in character. Midway and slightly back from the walk stands a rustic cottage overlooking the whole of the lawn and the valley down to which it trends. The valley forms a charming vista, stretching away for a considerable distance with wooded slopes rising in the form of an irregular semicircle at its lower extremity; its only blemish a clump of timber stretching across the valley, spoiling the grace of its flowing lines, and causing one to turn with regret from the contemplation of a scene that but for it would be most beautiful. It was a happy thought which prompted the artist to put no shrub groups on this lawn, the wide unbroken expanse of turf imparting a dignified aspect that is eminently

in keeping with its commanding position, with which also the noble promenade along the top is in perfect harmony. It is a masterly conception well wrought out, worthy of unqualified praise and admiration.—EDWARD LUCKHURST.

(To be continued.)

THE GRAPE SPOT.

JUDGING from the many answers to correspondents on the subject of Grapes spotting and scalding which appear in the Journal from time to time, it is pretty plain that if the secret of prevention of the injury is found out and turned to account by some cultivators, there are still a goodly number who seem to be in the dark as to how to deal with it. The cause of the spot may probably be traced to more than one source; at the same time I am thoroughly convinced that a sudden change of temperature is the main cause. Some Grape growers advise a high temperature with dry atmosphere, while others prefer a low or medium temperature with a little moisture.

I know no varieties so subject to spot as Madresfield Court and Lady Downe's, especially the latter. I have had a good deal to do with this variety, and my experience is that much depends on the state and condition of the Vines. The Vines being in perfect health, I would advise the following treatment: As soon as the buds begin swelling provide a little fire heat, keeping the house moist till the Grapes are in flower; then increase the heat and lessen the moisture, admitting air as required, always leaving the top ventilators slightly open. As the berries approach the critical or stoning period endeavour to maintain an equilibrium of heat and moisture, for I am an advocate of both. If the mornings are bright admit more air as soon as the sun strikes theinery, continuing to increase the ventilation till near noon. Damp twice before noon and once after. If we happen to have a bright spell of weather just when stoning is going on mix some lime putty with water, and with this syringe the glass outside; it breaks the scorching rays of the sun, and at the same time does not make the house too dark. Still all this trouble will not insure success if all else is not right. An overcrop on delicate Vines is a great and rather a common danger: on such Vines the berries will spot in spite of all we can do. I know of two houses of Lady Downe's. The Vines in one house have a very light crop on them, and yet have many spotted berries although they have received careful treatment, while the Vines in the other house have an extra heavy crop with little or none of the berries spotted. My theory is that the lightly cropped Vines, although to all appearance healthy and strong, have not the sound constitutional qualities essential to fruitfulness, while the more heavily fruited Vines have by their real health and vigour not only been able to bear a good crop, but have been able to cope with the spot under the good treatment which I believe they received; and I observed that what few spotted berries were on the Vines were all on the rods bearing the heaviest crop, and scarcely any on a rod which carried a light one.

I believe I have seen it somewhere stated that the cause of spot is the sun's rays coming in direct contact with the berries. This theory will not stand, for I have often observed that bunches entirely shaded by leaves were sometimes quite as much spotted as those exposed to the sun, and my neighbour, a nobleman's gardener, has pointed the same fact out to me on Vines under his charge. A proper equilibrium of heat and moisture, I suggest, is the best preventive of the spot. The subject is worthy of notice, and I hope to hear more about it from those who have been taught in the school of experience.—B. G., Co. Down.

FLORAL CONCERT DECORATIONS.

THE promenade floral concerts which were inaugurated a month ago at the Agricultural Hall, Islington, appear to have been very popular. It will be remembered that large prizes were offered and were won chiefly by Mr. Wills and Mr. B. S. Williams. At the expiration of the period of the exhibition—a week—the two floral decorators were engaged to embellish the Hall for a longer period. They have done their work well, and have sustained a really extensive and artistic exhibition for the period of a month. It is estimated that sixteen thousand visitors were present at the last concert, when it was noticeable that the visitors appeared to derive as much pleasure by inspecting the flowers as by listening to the music. An

avenue of fine standard and pyramid Bays was formed in the covered approach to the Hall. In the auditorium tall specimen Cordylines were placed at wide intervals, and the margin of the promenade was rendered attractive by valuable ornamental-foliaged plants and flowers; large raised flower beds were also formed in various parts of the Hall. The flowering plants employed were chiefly Lilliums, Tritomas, and Gladioluses. The plants which have endured their long sojourn with the least injury are Palms. Crotons have suffered somewhat, as have some of the Tree Ferns, although *Dicksonia antarctica* and *Cyathea medullaris* appear about as fresh as ever. The general condition of the plants, however, denotes that they have not only received good attention, but that the Hall is well adapted for displays of this nature. Amongst the decorations were examples of artificial rockeries and rustic work. The



Fig. 54.—Artificial Rockery.

accompanying figure represents the exhibit of Messrs. Dick Radclyffe & Co., which was awarded the first prize in this section of the decorations. Mr. Wilson, ex Crystal Palace, remained "on duty" throughout the period, and is now engaged on a show of another nature—dairy produce and poultry.

CEMENT WALKS AND EDGINGS.

SOME three years ago when I took charge of these gardens it became necessary to entirely remodel them. We commenced first with the kitchen garden, which was to be solely confined to fruit and vegetables—no flowers were to be permitted in it. There was one especial subject I was to try to effect something original in, and that was the edgings of the walks, the old favourites Box, Thrift, Grass, Gentians, &c., and also the fancy earthenware edgings, not meeting my employer's wishes. I therefore proposed plain cement edgings; and then the idea struck me, Why not have cement walks too? Having received my employer's sanction to this, and after three years' experience of them, I wish to state briefly my opinion of these walks.

Firstly, they are a great saving of labour throughout the year; secondly, they always have a clean and neat appearance; thirdly, when once made they require no repairing, no keeping up, and therefore the first cost is the only expense; fourthly, where a quantity of heavy wheeling is done it is done much easier, as half the propelling power is not required on them that is necessary on ordinary gravel walks. The only attention these walks require is the sweeping of them. For this purpose we use a fine hair brush, as it removes all the dust from them. When any adhesive dirt gets on them, which sometimes happens after a quantity of wheeling, all that is required is to apply a bucket of water and a hard whalebone brush, and it soon all comes off; in fact even that much trouble is scarcely

ever required, as the first subsequent shower invariably cleans the walks sufficiently.

The garden here is oblong in form with a walk through the centre, and the other walks running parallel on the north and south sides respectively. Pyramid Apples and Pears are planted on both sides of the central walk; each tree corresponds in height and form as nearly as possible with its opposite neighbour, and behind the rows of trees and the walk there are two rows of Strawberries planted, and the dark green foliage of the Strawberries contrasts effectively with the white appearance of the cement. When this avenue of trees is in bloom in the month of May the effect is very pleasing; but perhaps there is no time these walks have a more striking effect than during moonlight, they are certainly most picturesque then. Some of the walks have marginal rows of Beet and Parsley. These walks make a pleasant promenade which can be used at all times; it matters not how wet it may have been, so long as it is dry overhead. They will scarcely damp the sole of any lady or gentleman's dress boot—in fact water perfectly passes off them, and there are openings scarcely visible left at the sides of the walks near the edge, where the water makes a quick exit.

Now as regards their making, it is quite simple: 8 inches of excavation will do, then the cement edging is laid. About 4 inches of rubble does for a foundation. Anything will do for this, either broken stones or bricks, and act well. We use clinkers from the colliery, which is close at hand. On this the cement is laid, which is composed of Portland cement and ground bricks mixed together. The workman fashions it into the shape required, and just before it dries he shakes pure cement on, which gives that charming white appearance so highly prizeable here. The cement is spread in blocks of 8 feet long, and every alternate one is done first, so as to allow of expansion in setting. In winter weather the walks are apt in very severe weather to become slippery; we then use silver sand and salt and keep the walk well swept, and we then experience little if any inconvenience on that account.

The walks were laid by Messrs. W. B. Wilkinson & Co., Newcastle, at a cost of 3s. 6d. per square yard for the walk and 1s. 9d. per lineal yard for the edging. This perhaps to some may be considered expensive, but it is the first and last cost.

I may here mention that the gardens and the estate likewise are swarming with ants. When these walks were first made the ants perfectly covered them, so much so that we could have swept them up by shovelfuls, and so did worms after rain too.—B. COWAN, *Aswell Park Gardens, Blaydon-on-Tyne.*

IN THE NORTH.—No. 2.

ABNEY HALL, CHEADLE, THE RESIDENCE OF
SIR JAMES WATTS.

THE President of the Manchester Botanical Society has long been known for the energy with which he has entered into the pursuit of horticulture, and his residence (within about six miles of Manchester) has deservedly acquired a high renown for the excellence of its cultures and the careful manner in which it is kept. To those of us who live far from the busy haunts of men it sounds somewhat startling that it is only on the verge of the zone within which the Oak will thrive round a Cottonopolis. You meet with other trees in some degrees of luxuriant growth, but until you pass the boundary you meet with no Oaks of any degree of vigour. I saw none on my way here, and I am told it is the same on other sides of the city; but once within the gates of Abney Hall you may fancy yourself at any distance from the noise and bustle you have just left behind you. There is a diversified character in the grounds of which the most has been made, and a fine avenue of *Cupressus Lawsoniana* is a feature which you do not see in many places of much greater size, while specimens of other Conifers and other shrubs are scattered throughout the grounds.

An exhibitor Sir James Watts has made his mark; and although now he has withdrawn from the contest, you meet in going through the houses the plants which have won for him the distinction he has acquired. At the last Manchester Exhibition some of these plants occupied a conspicuous place, although he no longer enters the lists as a competitor. Here, for instance, are plants of *Genetyllis fuchsoides* and *tulipifera* some 4 feet through; then, again, there is a fine plant of *Boronia pinnata* quite as large. The Azaleas also were very fine; they were not fully trained but allowed partly to grow naturally, and the effect was exceedingly good. Then the Orchids were excellent, more especially the *Deadrobiums*; such sorts as

densiflorum, *Fraserii*, &c., being huge masses 3 to 4 feet through and as full of bloom as they could possibly be. Heathas, too, were exceedingly well done, some large specimens 3 to 4 feet in diameter exhibiting great skill in their treatment.

But after all the grand feature of the place is the conservatory, and of the conservatory the Camellias. The conservatory adjoins the mansion and is a well-designed and ornamental building, but once inside it all this is forgotten in the glorious specimens of the lovely flowers with which it is filled. Although I have seen a good many Camellia houses—notably do I recollect one many years ago at Lord Middleton's at Wollaton near Nottingham—yet I do not recollect anywhere to have seen grander or more healthy plants than those. They were planted out, and some of them could not have been less than 20 feet high. At the period of my visit they had long passed out of flower and were making rapid growth for next season, but when at their height of bloom the sight must have been grand. The sorts were nearly all of the best and most useful kinds grown, such as the old Double White, which still retains its position as the most useful of all the pure white kinds. Then there was *Fimbriata Alba*, a most lovely kind; *Imbricata*, of which there were two plants fully 20 feet high; *Countess of Derby*, *Contessa Lavinia Maggi*, *Cup of Beauty*, *Sarah Frost*, *Jubilee*, ever vigorous and free-blooming, and many others. Another house was also devoted to Camellias, which were brought in here to bloom, while the Orchids and other flowering plants added great gaiety and beauty to the house.

Of course under the care of so experienced a gardener as Mr. McKellar every department of the garden was in excellent order. Bedding plants were in immense quantities and in fine condition; Vines were healthy and full of fruit; the Peach house also afforded a remarkable contrast to the condition of trees on walls everywhere this untoward season. But it seems to be useless to expatiate on these, which are to be found in every well-ordered establishment. I have indicated what seem to me to be the chief features of the place and what make it well worth a visit. Sir James Watts himself is now unable to do as he was always ready to do, but his courtesy is the same as ever, and permission is readily accorded to view the grounds.—D., *Deal.*

GRAPES CRACKING.

ON page 230 "A KITCHEN GARDENER" informs us that he has succeeded this season in preventing the cracking of his Grapes by letting three or four of the laterals on the tops of the Vines grow at will. He does not inform us what sorts the Vines are. "A KITCHEN GARDENER" may be right and I may be wrong, but I do not feel satisfied that by allowing three or four of the laterals on the top of a Vine to grow and not pinch them will prevent the cracking of Grapes; or why should one sort crack more than another? Some Grapes never crack, while others grown under precisely the same circumstances always crack. Why is this?

Last year a writer in the Journal said that he had succeeded in preventing his Grapes cracking by denuding the Vines of some of their foliage. His practice was quite the opposite of "A KITCHEN GARDENER's," and yet both state they succeeded in preventing their Grapes cracking. "A KITCHEN GARDENER's" practice would certainly lessen the flow of sap into the berries, but the practice of your other correspondent would, according to my ideas, force more into them, and cause them to crack worse. This leads me to believe that it was not the means adopted by your correspondents that prevented their Grapes cracking.

About two years ago we potted a Vine of Madresfield Court to see if by growing it in a pot we could prevent it from cracking its berries. It grew well and ripened a good cane, which the following season showed fruit. One very fine-shaped bunch was allowed to remain, all the others being removed. It set its berries well, and all went as well as could be desired until the berries commenced colouring, when they as usual began to crack. On the first signs of cracking less water was given to the roots to lessen the flow of sap into the berries. To such an extent was the water withheld that the Vine would often flag. Still cracking went on until scarcely a sound berry was left. There was at the same time abundance of foliage on the Vine. Another instance: Last spring we planted out in the vinery a Vine of the same sort, which grew well and ripened a shoot to the top of the rafter. It was last winter cut-back to within 5 feet of the border. This spring it broke

well, and every bud showed several bunches, and as the Vine was very vigorous two bunches were left. This Vine has been allowed to grow with very little restriction, and has a thoroughly ripened shoot as thick as a man's thumb, with laterals in abundance. It set its berries well, and all went as before until the berries began to colour, then they began to crack. So soon as it was noticed that the berries were cracking, the shoots which bore the bunches were cut half through to try and prevent more berries going, still they went till the bunches were good for nothing. Why was this? If the restricting of the flow of sap prevents the berries cracking, why did it not do so in my case? Certainly everything was done to lessen the flow of sap into the berries, but it did not prevent them cracking. This leads me to believe that it was not the practice adopted by your correspondents that prevented their Grapes cracking, neither do I believe that anyone can be certain what causes Grapes to crack.—W. HARRIS.

WINDOW GARDENING.

THE possibilities of window gardening are various and great, much more various and far greater than those unaccustomed to close observation would imagine. Even within the circuit of the metropolis, smoke-begrimed and foggy though the atmosphere be, great things may be, indeed are, done—greater things indeed than are to be seen in any other town in England. This is in measure owing to the fact that the population of London is cosmopolitan, and immigrants from sunny Italy or buoyant France not unnaturally desire to surround themselves with as many mementos as possible of the flowery lands they have left. Strangely enough it is not among the mansions of the upper ten that the possibilities of window gardening are carried out to their utmost, although here and there we see an example of what might be done: such for instance is the area of a house in Grosvenor Square, where Geraniums, Fuchsias, Calceolarias, evergreens, Ferns, climbing plants, and even Palms are employed with such effect as to convert a few feet of paved yard into a pretty garden.

Middle-class dwellings have as a rule the best display of window gardens, here and there the arrangement being so novel and so artistic as to prove that they are the emanation of personal taste, not a slavish following of a too prevalent fashion. Nor do we find this only among the well-to-do. Here and there amid the very poorest class of dwellings in the suburbs, aye, even in the metropolis itself, there crops up a palpable outburst of that universal love of the beauties of nature which has been implanted in man by his Creator, and which, crushed down and repressed by the hard necessities of daily existence, never becomes wholly extinct.

In taking our walks abroad we have lately seen several noticeable features in window gardening, details of which we subjoin. A terrace house with an underground parlour, the front garden rising in a slope from the house, the first-floor room having a projecting bay-window: from the garden up to this window is a screen of octagon wire, over which are trained *Tropæolum canariense* and *Convolvulus major*. These two plants form a beautiful flowery screen to the window of the ground-floor sitting-room, and being annuals the apartment is again open to the light in winter. The restricted space of the front garden is laid out to the best advantage and with excellent taste, the ever-popular and brilliant colours of red, blue, and yellow of Geraniums, Lobelia, and Calceolaria being toned down by a judicious admixture of less showy subjects, the whole presenting a refreshing relief to the sight from the preponderance of good foliage and freshly green turf, forming a pleasant contrast to the generally glaring dusty appearance of the white-stone-fronted houses on this, the sunny side of the Grove Road, Hammersmith. Another novel and pretty arrangement of a miniature garden in the same neighbourhood is as follows: Along the railing against the road a healthy Virginia Creeper is trained, also over the dividing wall between this and the adjoining premises, and right up one side of the house and along the balcony of the lower windows, from which it hangs in light and graceful festoons. The green of the creeper and the beautiful smooth sward of the liliputian lawn form an excellent groundwork for the well-arranged bedding-out plants, which are of the usual order, the special feature of the garden consisting in the employment of the profuse-flowering rich deep purple hardy Clematis, for covering a series of low arches across the end of the garden nearest the windows of the house, the growth of the climber being so dense that the wire is completely hidden, and the flowers so

numerous and closely set together that the whole forms a striking mass of bloom. The introduction of some tall free-flowering orange-coloured Nasturtium would make the picture perfect.

These are gardens of the well-to-do, and to keep them up a certain if not very large amount of expenditure is necessary. A flat-fronted one-storeyed shop in a little back street off Hammersmith Broadway scarcely seems an eligible place for a garden, yet one has been made of such a spot. As before stated, the front of the house is perfectly flat, but above the shop-front a wooden stage has been hung; on this are placed as many Fuchsias and Geraniums, Calceolarias, &c., as can be crowded in a miscellaneous but no less pleasing collection. The plants are full of flower, and the blooms of the Fuchsias hanging in such clusters that stage and pots are both entirely masked. On either side of the stage are pots of blue Lobelia and Creeping Jenny. A string fastened below the rim of the pot and tied to a nail holds them in place; and this hanging garden is, it is almost needless to say, a delightful picture in a poor neighbourhood.

Before leaving the subject, the employment of virgin cork, now becoming so general for window decoration, deserves a word. No one can deny how readily and beautifully this substance lends itself to garden decoration, but it must be in suitable situations. The effect of its employment for facing window balconies to stuccoed or flat-brick houses is incongruous and inartistic in the extreme. For conservatories and picturesque country cottages it is invaluable. Those who would see how well it may be used under cover should pay a visit to the "Grotto," Villiers Street, Strand, where an entire ground floor has been converted into a perfect cavern of coolness and beauty, fresh green feathery Ferns and other plants growing freely from the fissures of the cork.—T. S. J.

FUCHSIA PROCUMBENS.

"This curious little plant," states the "Botanical Magazine," t. 6189, "so unlike a Fuchsia in habit and colour of the flower, was discovered in 1834 by Richard Cunningham in the northern island of New Zealand, on the shores of the east coast, opposite the Cavalbos Islands, growing on the sandy beach, where it has since been gathered by Colenso. It has also been found on the Great Barrier Island by Mr. Kirk in two localities both near the sea."

The above extract shows it to be a seaside plant, yet, like our Asparagus, it thrives wonderfully well inland without any application of saline matter beyond that found in turfy loam and leaf soil.

Its habit is prostrate or trailing, having small wiry stems, alternate small leaves bearing some resemblance to the Fuchsia, but very much smaller; its habit reminding of *Linaria Cymbalaria* rather than a Fuchsia, running along the ground scarcely an inch in height, covering it with a close carpet of green, though the young leaves have a reddish tint when young, also the stems, which latter change to reddish purple. It is about as much like a Fuchsia as *Ficus repens* is like a Fig or India-rubber Plant. Unlike *Ficus repens* and some other trailers, it does not emit, so far as I have noticed, roots at the joints; therefore it is not disposed to climb, but grows straight away. I had a few cuttings in spring—it being very readily increased that way—which grew so rapidly and hung down the sides of the pot so gracefully as to suggest, What an admirable basket plant it would make! We put three small plants in a basket, and suspended it about 8 feet from the floor. It grew so fast that in August depending all around were shoots and foliage 3 to 4 feet, and they would evidently have grown had it been allowed until they had reached the floor. Clearly it is a good addition to the very few really good basket plants we possess for the greenhouse.

The flowers are produced at the axils of the leaves, and unlike a Fuchsia, have the tubes upright—no drooping in this case, for if the shoots depend the flowers are reared directly upward, and very curious and pretty they are—green, yellow, and purple—having the form of a Fuchsia. The flowers of this Fuchsia being inconspicuous, it may be asked, What is there about the plant to recommend it? Well, the flowers are followed by berries, oblong or elliptical in shape, about an inch long and two-thirds that in diameter in the middle, which at first are greenish-yellow or whitish, changing to rosy-purple, which render the plant attractive. Eggs, indeed, they would be; and is it not stated in the "Gardener's Dictionary" (Johnson's), that "when gardeners discover the way to im-

prove the size and flavour of fruits we cannot doubt but that those of the *Fuchsia* . . . will be amongst the first novelties in the dessert?" Dr. Hogg, in "Vegetable Kingdom," page 358, says, "*Fuchsia exorticata*, a native of New Zealand, yields fruit which is pleasant, very sweet, and eaten with great avidity by birds." Is this species in cultivation?—G. ABBEY.

KITCHEN GARDEN CROPS IN THE SOUTH OF IRELAND.

WE have now come to the close of another active season, and perhaps a few notes relating to my experience may be acceptable to some of your numerous readers, especially to those who, like myself, have to contend with an extremely wet and cold climate. We have had an exceedingly unfavourable year, and I am sorry to say that in many cases the results were anything but satisfactory. The spring was hard and bitter, the summer cold and wet with a great deficiency of sun heat, so that excellence among many crops of the kitchen garden might be sought for in vain; however, I will give a few stray notes on those vegetables which in my experience best suit a damp soil and a heavy dripping climate.

PEAS.—Those which I find do best in our climate are as follow:—First sowings.—Dickson's First and Best, Carter's First Crop, Sangster's No. 1, and Laxton's Prolific; these, when sown at the same time form a good succession. For second sowings Laxton's Prolific, Laxton's Supreme, and McLean's Little Gem; these also follow in well. Third and general sowings.—Ne Plus Ultra, Williams's Emperor of Marrows which is a splendid Pea, Veitch's Perfection, British Queen, Hundredfold, and Hair's Dwarf Marrow. Fourth and last sowings.—British Queen, Champion of England, and Laxton's Omega. Those, if sown as described and at proper intervals, give a long and plentiful supply, coming in well in succession from the 20th of May till the middle of October. Everything considered our crops of Peas have been very good. The last two sowings particularly present a beautiful prospect, but are just now at a standstill, waiting for some sun to aid them to fill their pods.

BROAD BEANS.—These have produced capital crops this year. Those which I find do best in a damp climate are the Early Mazagan, Green Long Pod, Green Windsor, and Beck's Little Gem.

DWARF KIDNEY BEANS.—In the early part of the year this vegetable proved nearly a failure on account of the severity of the spring. To replace those lost I found it necessary to sow a quantity in pots and forward them by artificial means, which after hardening off well I planted out to supply blanks, and this answered the purpose well, giving a supply about the 25th of June. Those with which I have been most successful are Williams' Early Prolific, Negro Long-podded, and Canadian Wonder, which is excellent both for exhibition and table purposes. For the taller sorts I prefer the Champion, Scarlet Runner, and Painted Lady.

CAULIFLOWERS.—Our spring crop was a thorough failure owing to the severity of the weather. The only heads which we expect to turn in now are the Walcheren and Veitch's Autumn Giant, which we hope will be closely followed by Grange's Autumn Broccoli.

BROCCOLI in general does not come to perfection in this locality. I give the preference to Grange's Autumn Giant, Snow's Winter White, and Backhouse's Winter Broccoli, and for spring and early summer use Frogmore Protecting, Veitch's Protecting, Williams' Alexandra, Carter's Summer, and an exceedingly good variety, a cross between Cattell's Eclipse and Knight's Protecting, this coming into use through May and continuing until the middle of June; it is quite dwarf and compact.

BRUSSELS SPROUTS do very well here, especially when planted early. I am quite content with Dickson's Improved. It is a splendid variety, and suits our soil and climate well.

BORECOLE.—I find this to be a most useful vegetable for winter use, growing luxuriantly with us, Dwarf Green Curled or Scotch being our favourite.

CABBAGES.—I may mention a few of the very many useful varieties of the Cabbage family. The Early Dwarf York is very early, and consequently very useful; Wheeler's Imperial comes next, it is a splendid variety; Cocoa-nut is also very good; so is Enfield Market, notwithstanding it being a late variety.

SAVOY.—In this class our favourites are Dwarf Green Curled and Drumhead.

SPINACH.—This useful vegetable when sown in succession can be had at all seasons. I find for winter use none to equal the prickly variety, and for summer use the round suits best, sowings of which I make every eighth day during the summer months. The New Zealand or Flanders is very useful, but not a favourite with some consumers.

TURNIPS.—We had much anxiety this season concerning the welfare of the Turnip crop, all early sowings having bolted and were consequently useless; but those sown about the end of March and subsequently maintained the character for which the south of Ireland is celebrated, having grown to a good size and superior quality. The sorts which thrive best are the Early White Stone, Early Snowball, and Robertson's Golden Ball. For late sowings, Orange Jelly, Chirk Castle Black Stone, and American Red Stone. When sown at proper intervals these sorts give a good succession.

CARROTS.—For early sowings in frames the French Short Horn, and for sowing out of doors the Early Scarlet Horn, James's Intermediate, and Long Red Surrey. But the Carrot requires much attention to bring it to perfection in our climate, the wireworm being its greatest enemy. However, all have done well this year; but I may add that in the preparation of the ground I applied gas lime liberally, and to this I attribute the success of the Carrot crop.

PARSNIP.—This has been an unusually heavy crop with us this season. Parsnips like a deep soil, consequently I trenched to the depth of 3 feet, introduced plenty of manure to the depth of 15 inches under the surface, with a good layer of quicklime over all, which I had forked-in. The sorts I grow are Student and Hollow Crown.

BESTROOT.—This has been anything but a success this year, the seed being unusually slow in germinating, and those plants which succeeded in making their appearance above ground showed a great desire to run to seed. The sorts grown here are Cattell's Blood Red and Dell's Crimson.

ONIONS have fallen far short of being an average crop this year. The Globe Tripoli has not turned out as well as usual, growing luxuriant tops, but little bulb. Spring sowings are rather small, but of good quality. The sorts which suit us best I find to be Globe Tripoli for early use, and for general use James's Keeping, Bedfordshire Champion, Banbury Improved, and Williams's Magnum Bonum.

LEEKS are very good this season, Henry's Prize Leek being a capital variety.

CELERY is quite a success with us this year. I have been able to supply Celery of the very best quality since the 12th of August. The plan which I adopt for blanching in the early part of the season is to surround the plants with a quantity of sawdust, and then bank-up in the usual way. The sorts I grow being Williams's Matchless White and Williams's Matchless Red, and for latest Laing's Solid Red. I would recommend the above mode of blanching early Celery.

SALADS in general have given every satisfaction. A damp season like that just passed suits this class of vegetables well.

—A. CAMPBELL.

(To be continued.)

NEW BOOK.

The Clematis as a Garden Flower; being descriptions of the hardy kinds, directions for cultivation, and the purposes for which they are adapted in modern gardening. By THOMAS MOORE, F.L.S., &c., and GEORGE JACKMAN, F.R.H.S. New and revised edition. 1877.

THE title page from which the above is copied tells the purpose of the volume, and we readily record that the purpose is thoroughly effected. The *Clematis* is now one of the most ornamental and popular of our garden plants, but it took nearly three centuries to establish it in its present position, as is told in this extract from the introduction of the volume.

About half a dozen species of *Clematis*—all European—found their way to this country about the end of the sixteenth century—namely, *C. flammula*, *C. viticella*, *C. cirrhosa*, and *C. integrifolia*, all in 1596, and *C. erecta* in 1597. The two former still hold an honourable position amongst the ornamental species, though eclipsed by later introductions, and more especially by recent acquisitions of hybrid origin. The catalogues do not credit the seventeenth century with any additions to our garden *Clematises*; but in the course of the eighteenth century some few are recorded—*C. crispa*, *C. viorna*, and *C. orientalis* in the former half, and *C. virginiana*, *C. ochroleuca*, *C. florida*, *C. calycina*, *C. angustifolia*, and *C. paniculata* in the latter half.

Since the beginning of the present century the acquisitions

have been not only more numerous but more important; and to the introduction from China and Japan of *C. patens* and its varieties, of *C. lanuginosa*, *C. Fortunei*, and *C. Standishii*, we must ascribe the vast improvements which we now see in the Clematis—improvements which are probably unprecedented in the history of any of our popular flowers, when we take into account the number and variety of the acquisitions on the one hand, and the short space of time which has elapsed on the other. Taking them in chronological order, we find that this century gave us in its first decade *C. cylindrica*, *C. triterminalis* and *C. campaniflora*, plants now seldom heard of. In the second decade we find recorded *C. Simsii* and *C. reticulata*, both rather doubtful plants, and *C. chinensis*, now never seen. The third decade gave us *C. dahurica*, *C. lineariloba*, *C. biterminalis*, *C. terniflora*, and *C. japonica*. *C. grata* and *C. montana* were introduced in 1831, followed by *C. patens*, *C. Sieboldii*, and *C. latyrrifolia*, all in the fourth decade. Then came *C. graveolens* and *C. tubulosa* in 1845, and *C. Grahmi* in 1846; in 1851 the glorious *C. lanuginosa* was obtained; in 1854 *C. barbellata*; and finally, *C. Fortunei* and *C. Standishii* in 1863.

It is from these materials, or rather from a small proportion of the later introductions—*C. patens*, *C. lanuginosa*, *C. Fortunei*, and *C. Standishii* especially—that the magnificent varieties of Clematis now within reach of cultivators have been obtained.

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

CARISSA GRANDIFLORA. *Nat. ord.*, Apocynaceæ. *Linn.*, Pentandria Monogynia.—“A very pretty evergreen bush, with white fragrant flowers and deep green leaves, of easy culture in a moderate stove or warm greenhouse during winter, and in a greenhouse or the open air in summer. It is a native of Natal, where it was discovered by Drege, and has been since collected by Peddie, Krauss, and other travellers. We have also seen specimens from St. Helena, where it is cultivated. *Carissa grandiflora* was introduced by Cooper when collecting for Mr. Wilson Saunders; in a note to the herbarium specimen which he sent home he gives it the native name of ‘Amatungula,’ adding, ‘fruit used for jam, tarts, &c.’ Harvey states of the African *Carissas* generally, that the fruit is plum-like and delicious. That of the Indian *C. Carandas* is eaten both raw and cooked. It flowers in the Palm house at the Royal Gardens in May. It has narrower leaves and much larger flowers than the native specimens and that figured in the ‘Refugium,’ which has also a greenish corolla, ours being pure white.”—(*Bot. Mag.*, t. 6307.)

TULIPA ORPHANIDEA. *Nat. ord.*, Liliaceæ. *Linn.*, Hexandria Monogynia.—“For garden purposes this is the finest of all the Tulips of the sylvestris group. It has flowers as large as those of sylvestris itself, but flushed on the outside with red instead of green. It is quite hardy, being an inhabitant of the mountains of Greece, at an elevation of from 3000 to 4000 feet above sea level. It has been for some time in cultivation under various names, having been discovered in 1857 on Mount Malevo in Eastern Læonia by Dr. Orphanides, Professor of Botany in the University of Athens, after whom it is named. Our drawing was taken from a plant which flowered with the Rev. H. Harpur-Crewe at Drayton-Beauchamp in June of this present year. In its native stations it flowers as early as April, or even the latter end of March.”—(*Ibid.*, t. 6310.)

NOTYLIA ALBIDA. *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—“It is a native of South America, from Mexico to Brazil. This species is one of the largest-flowered ones, though inferior in this respect to some others as it is in colour. Reichenbach well remarks that it resembles an *Eria* in habit and colour, or a small-flowered *Angraecum*. It was discovered by Warszewicz in Central America, and sent by him to the Royal Horticultural Society's gardens many years ago, since which time it has been re-imported by Messrs. Veitch, and first flowered April, 1872, in Messrs. Veitch's nursery.”—(*Ibid.*, t. 6311.)

MESEMBRYANTHEMUM COOPERI. *Nat. ord.*, Ficoidæ. *Linn.*, Icosandria Di-Pentagynia.—“This is a very handsome and free-growing species of *Mesembryanthemum*, filling a large pot with its blue-glaucous glistening stems and foliage, and bearing a handsome purple flower. It belongs to the *Crasulina* group of the *Papulosa* division, but differs very much from all previously described species, all of which have very slender stems. Its precise habitat is unknown; it was sent by Mr. Cooper when collecting in South Africa for Mr. Wilson Saunders, who, with his usual liberality, presented specimens to Kew, which flower annually in the month of June.”—(*Ibid.*, t. 6312.)

TOVARIA OLERACEA. *Nat. ord.*, Liliaceæ. *Linn.*, Hexandria

Monogynia.—“This is far the most striking of the eighteen species of *Tovaria*, a genus better known by its much later name of *Smilacina*. It is an inhabitant of the temperate region of Sikkim, at an elevation of from 8000 to 12,000 feet above sea level, and, as might be expected, proves to be perfectly hardy in English gardens. It was gathered first by Griffith, in 1849 by Sir Joseph Hooker, whose sketch made on the spot from the living plant is now in the Kew collection of drawings, and recently by Dr. Treutler and Mr. C. B. Clarke. It is the *Smilacina* described without a name by the latter gentleman in the account of his journey from Darjeeling to Tonglo, printed in the fifteenth volume of the Journal of the Linnean Society. We owe its introduction into cultivation to Dr. Treutler, who presented some of the rhizomes which he brought home to the Kew collection, where they flowered in the herbaceous ground this present summer. According to Dr. Hooker's note (see his Himalayan journals, vol. ii., p. 48) it is called ‘Chokli-bi’ by the natives of Sikkim, and its young flower heads, sheathed in tender green leaves, form an excellent vegetable, and it is to this that the specific name ‘*oleracea*’ alludes.”—(*Ibid.*, t. 6313.)

EPIDENDRUM SOPHRONITIS. *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—“Perhaps the most curious characters of *E. Sophronitis* are the broad honeyed area of the lip, and the most singular pale glaucous greenish waxy secretion that clothes both surfaces of the leaves. *E. Sophronitis* is a native of Loxa in Peru, where it has been collected by Wallis and others. The specimen here figured flowered in the Royal Gardens in May and June of the present year, and was received from Mr. Linden.”—(*Ibid.*, t. 6314.)

CEROPEGIA BARKLEYI.—“This is one of many undescribed species of *Ceropegia* which seem to abound in the dry regions of South Africa. *Ceropegia Barkleyi* flowered at the Royal Gardens, Kew, in May of the present year, from tubers sent to H.E. Sir Henry Barkly, K.C.B. (late Governor of the Cape Colony), from the Morley mission station in the Transkei district, by Mr. Bowker. It is allied perhaps most nearly to *C. africana*.”—(*Ibid.*, t. 6315.)

BORONIA ELATIOR.—“It is a tall shrub with hirsute branches, having pinnate dark green leaves, the flat linear rigid leaflets varying in number from five to thirteen or more. The flowers are axillary and pedunculate, bell-shaped, of a lively rosy-carmine hue, fragrant and very attractive, profusely decorating the branches. It is, indeed, one of the most beautiful of the *Boronias*, and is, as we learn from the Messrs. Veitch & Sons, by whom it has been introduced to public notice, a plant of remarkably easy cultivation. It was awarded a first-class certificate when exhibited by them at South Kensington in May, 1876. *Boronia elatior* is a native of Western Australia, in which colony it is found at King George's Sound, on the Darling Range, and at the Franklin River. It was formerly named *B. semifertilis* by Von Mueller. The colour of the flowers is much richer and more striking than that of the other *Boronias* already in cultivation.”—(*Flor. and Pom.*, 3 s., x., 145.)

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

HARDY FRUIT GARDEN.

OUR main work has been gathering fruit and storing it for late use. Nearly the whole of the Apples may now be gathered except the very late sorts. There are some sorts too that are not so late in ripening, that are very liable to shrivel if they are gathered from the trees as soon as the pips change to a brown tint. Of sorts liable to shrivel may be named Court-Pendul-Plat, Pitmaston Golden Pippin, Mannington's Pearmain, Reinette du Canada, and Earn's Pippin. There may be other sorts, but those named are better to hang on the trees as long as they will do so without injury. It is rather difficult, too, to know the right time to gather Pears. We usually gather them at intervals of a week or ten days from the same trees, and this prolongs the season in which they are fit for use. It is best to handle all fruits very carefully intended to keep, placing them one at a time into the baskets and also lifting them out by hand. A little clean hay or straw should be placed in the bottom of the basket into which the fruit is gathered.

We have already urged the importance of purchasing early in the season all fruit trees intended to be planted, and if the advice has been taken the trees will be ready to be sent home early in November, which is as early as they ought to be moved, especially as it may be necessary to send them a considerable distance. If the places have not been prepared for them this ought to be seen to before the ground is saturated with the usual rains we

have at this season. When the ground is wet it not only requires more labour to wheel the barrows, but moving very wet soil if it can possibly be prevented is a great mistake. The amount of preparation must be determined by the state of the ground. We have sometimes had to dig out a foot in depth of gravel under the trees in order to obtain sufficient depth of soil; at other times it has been necessary to dig out stiff clay and mix sandy material with the compost. Some soils must be well drained, others would not be benefited at all by draining. Usually the stiffer the soil the more necessity there is for draining. Something also depends on the district, whether it is high or low; the rainfall also must be estimated, as this ranges from 20 inches on the east coasts to 36 inches or more annually on the western. Lichens and Mosses of sorts covering the stems of the old trees is a sign of stagnant water in the soil.

Gooseberry and Currant bushes which have been covered over to preserve the fruit for as long a period as possible should have the coverings removed on fine days to allow the fruit to dry, and at the same time all mouldy berries should be removed.

No time should be lost in getting Strawberry plants out before the severe weather, which we may soon expect, sets in. If they are planted at once they will grow considerably before the winter, and would even bear a few fruits next year, but they cannot be expected to carry a full crop when they are planted late. Our own plants are now of large size, and the ground between the rows has been frequently hoed. The beds ought to be free from weeds at this season, for it is difficult to hoe them later.

PINE HOUSES.

It is now a good time to re-arrange the plants for the winter, and to take the opportunity to thoroughly clean the glass outside and inside, as also the woodwork of the houses. The tan beds should also be turned over, and if necessary a little fresh tan may be added; but this ought only to be done in the case of those plants that require to be incited into root-action, which includes recently-potted suckers and plants which are now throwing-up their fruit, or where the Pines are swelling. Plants intended to be started about three months hence should be kept quiet in a temperature of 60° at night, or even 55° in very cold nights, and the bottom heat should not exceed 80° or 85°. Pines are not unfrequently crowded too closely together, and added to this the plants may be too far removed from the glass; good fruit cannot under such circumstances be produced. The plants like plenty of light and with it as much air as possible. During the late autumn and winter months the Pine houses must be kept in a proper condition as regards atmospheric moisture. After this time it is better not to have moisture evaporate from the troughs fixed on the pipes. Sprinkling the paths and possibly the walls of the houses twice a-day will be sufficient. In fine weather admit as much air as possible. We would rather have more heat in the daytime from the pipes so as to admit a circulation of air, than to maintain the same temperature with closed lights and no artificial heat. Watering at the roots requires to be done with caution.

ORCHARD HOUSE.

The trees were repotted some time ago and are now fairly well established in their pots. Some of those not potted have been top-dressed. Mr. Rivers was the first to distinguish between top-dressing and surface-dressing, and it is a distinction with this difference, that at this season a large portion of the surface soil in the pots is removed with a piece of iron resembling the tine of a fork. This is replaced with rich soil composed of equal parts of loam and decayed manure. It is pressed down firmly with a wooden rammer similar to that used in potting the trees. Surface-dressing is merely adding a little rich compost to the surface in June and July without disturbing the roots at a time when the trees are in full growth. To form handsome trees it is necessary to purchase "maidens," and to pot them in 10-inch pots as early as the trees will bear removal. It is frequently necessary to cut a considerable portion of the roots off in order that the tree may be easily potted, and we have not found the trees suffer from this severe cutting-in. The potting material is very simple, merely good turfy loam four parts to one of decayed manure. We drain the pots well and press the compost in quite firmly, working the soil in amongst the roots. It ought to be noted, that if the trees are sent from the nursery they should be carefully lifted, and some damp moss or something similar should be placed round the roots. We have often wondered whether the fruit trees sold at auctions in London ever succeed well; they lay about in draughty places for days together with nothing round the roots until every fibre is shrivelled. Such trees may be sold cheaply, but they must be dear in the long run.

GREENHOUSE AND CONSERVATORY.

A frosty night or two came as a warning to remove all the Cape and New Holland plants into their winter quarters, as they not only suffer from frosts but we may expect continuous rains, which will do much injury by saturating the soil and causing the death of the small fibrous roots. There are scarcely finer plants at this or any other season of the year than the *Lapagerias*

alba and *rosea*, and after their culture is understood few plants are easier managed. We have been potting layers which were pegged down rather more than twelve months ago. The young plants had formed quite a mass of roots, many of them as thick as a goosequill; these were carefully preserved, and the plants were potted into pots that seemed large for the size of the plants, but were necessary to preserve the thick brittle roots. The pots were well drained, and the potting material employed was simply light fibrous peat; in this the roots luxuriate with the greatest freedom. *Lapagerias* are sometimes placed in heat: this is a mistake, as the plant is almost hardy and will suffer from too much heat. To grow it well it must be kept rather cool during summer. In our hot dry district a house facing north is the best place for it, and when it is grown in a house well exposed to the sun it is best to shade the plant from it. We syringe the leaves twice a day, and keep the roots always in a moist medium.

A few aphides had settled on the stage *Pelargoniums*, but two nights fumigating with tobacco smoke checked their further progress. *Cinerarias* were also fumigated for the same reason. This pest must be destroyed on its first appearance, or, what is better, fumigate when the plants seem quite clear, as preventing is better than destroying them after they have gained a footing. Where plenty of flowers are wanted at this season Zonal *Pelargoniums* and *Fuchsias* are suitable plants to grow, as they may be kept in flower until the *Chrysanthemums* are ready to take their place. In a week or ten days it will be necessary to take all the *Chrysanthemums* under glass, as the frost, should it set in severe, will damage the buds, especially those that show colour.

FLORIST FLOWERS.

Dahlias are still in great beauty where the frost has not touched them. This grand old flower when planted in a suitable position is still a very king amongst autumn flowers. The great many coloured globes nodding on their slender stalks have always an imposing effect. They are best either planted as a background to other flowers or as a foreground to a shrubby border; but those who grow for exhibition generally prepare a piece of ground by trenching and manuring, and plant the *Dahlias* in beds with about 4 feet between the plants. The flowering growths must be thinned out at this season, and all flowers which are past their best should be promptly cut off.

Hollyhocks have now mostly finished flowering; if so, the stems must be cut off near the surface of the ground—just above where the young growths are likely to come out. About the end of October the plants should be lifted, varieties that are scarce should be potted, and the ordinary stock may be planted-out close together where they may be protected from too much wet, which causes more injury to the plants than severe frost.

We have looked over the *Auriculas*, and have picked-off the withered leaves and any trusses of flowers that are coming up. If these are picked off at once the spring bloom will not suffer much from it, although it is certainly better when no autumn bloom requires picking off. Young offsets are potted off as they require it, but we shall not pot any after the middle of this month; it is better to allow them to remain until the spring, say the end of February or the first week in March.

Many of the *Pinks* have longer stems this year than usual, but they are now branching-out freely. We have placed small sticks to them to prevent the stems from snapping off at the surface of the ground; this they will do in high winds if not supported. *Carnations* and *Picotees* are now fairly established in pots, and we remove the lights, except during high winds and heavy rains. The plants require a fair supply of water at the roots.—J. DOUGLAS.

TRADE CATALOGUES RECEIVED.

H. Cannell, Swanley Nurseries, Kent.—*Autumn Catalogue of Plants and Bulbs.*

William Ramsey, Joyning's Nurseries, Waltham Cross, N.—*Select List of Roses, Fruit Trees, Bulbs, &c.*

Edmondson Brothers, 10, Dame Street, Dublin.—*Autumn Catalogue of Hyacinths, Tulips, Lilies, Crocus, Anemones, Ranunculus, Gladioli, &c.*

Auguste Van Geert, Ghent, Belgium.—*General Plant Catalogue for 1877-78.*

Louis Van Houtte, Royal Nursery, Ghent, Belgium.—*Catalogue of Azaleas, Camellias, Rhododendrons, &c.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

CALEBOLARIA SOIL (*An Old Subscriber*).—We could find no insects in the soil.

PLANTAINS ON LAWN (J. S.).—We know of no mode of destroying them except by cutting them out with a knife or dropping oil of vitriol into the centre of each weed.

GRAPE CULTURE (E. C.).—Our "Vine Manual," free by post if you enclose thirty-two postage stamps with your address.

GERANIUMS (C. P. Bolton).—There are hundreds of varieties so nearly alike that they cannot be named from mere trusses.

FRUIT TREES FOR SOUTH-ASPECTED WOODEN FENCE (T. G.).—Of Pears, Beurré Diel, Glou Morceau, Passe Colmar, and Winter Nellis. Of Plums, Green Gage and Cos's Golden Drop.

GRAPES SHRIVELLING (Mrs. Thorneycroft).—The premature shrivelling of the berries of which you complain arises from insufficient moisture at the roots. Have the border thoroughly drenched with sewage when the fruit commences colouring, giving at the same time a surface-dressing of manure, and you will soon perceive a material improvement in branches, foliage, and fruit.

IVY NOT CLINGING—CLIMBING PLANTS FOR A NORTH ASPECT (F. J.).—Some kinds of Ivy do not cling readily to walls of any description, the leading shoots having to be fastened with shreds and nails. A cemented wall can be covered with Ivy in this way, but the branch roots never take very strong hold of such a surface because of its dryness, a porous surface capable of absorbing much moisture, as brick or stone, inducing a quick strong root-growth, which enters every crevice and spreads over the entire surface. Mr. Luckhurst has *Lonicera flucosa* upon a north aspect, and finds it answers admirably. You cannot do better than train it upon a trellis against your wall as you propose. A few other good climbers for such a position are *Cotoneaster microphylla*, *C. Simonsii*, *Crataegus Pyracantha*, *Escallonia macrantha*, *Ampelopsis hederacea*, *Berberis Darwini*, and *Ligustrum japonicum*. The address which you require is Messrs. Barr & Sugden, 12, King Street, Covent Garden.

PRUNING SUMMER GROWTHS OF FRUIT TREES (F. M. S.).—It is good practice not to prune yet, but to give each shoot a twist about 2 inches from its base, not breaking it, but turning it downwards so as to direct the full flow of the sap from the upper part of the shoot into the buds at its base, which thus become large and full without starting into premature growth. Prune when the leaf falls, leaving your spurs short or long as may be best suited to their position on the tree, from one to six buds being left on as is found necessary.

SEEDLINGS OF PANSIES, SWEET WILLIAMS, AND ANTIRRHINUMS (Idem).—Transplant from the seed beds immediately, in order that the plants may be well established before severe weather sets in.

GLOIRE DE DIJON ROSE NOT FLOWERING (Idem).—You need have no fear that this very free-flowering variety will not develop its true character eventually. As you wish your flourishing young plants to come early into flower avoid hard pruning, simply cutting off a few inches of the long shoots and nailing them horizontally along the wall to induce every bud to give growth next season. Continue your liberal treatment; it is hardly possible to overfeed a Rose so robust as this is.

BONE DUST FOR ROSES (Amateur).—It is a "good thing" for Roses, a large handful mixed with the soil employed in planting each plant, or it may be given in March, a handful sprinkled around the plant for a distance of 1 foot to 18 inches from the stem, pointing in lightly with a fork. Seedling Briars will require to make two years' growth, and in the third be budded, or so soon as strong enough.

FUNGUS ON WATER LILY LEAVES (W. J. C.).—We know of no means of destroying the jelly-like substance except to sponge it off. Probably some newts placed in the water would tend to lessen the evil by purifying the water.

LETTUCES AND RADISHES IN WINTER (E. R. P.).—A rich friable loamy soil is most suitable with about a fourth of well-decayed manure well incorporated. The soil should be placed about 8 inches thick over a hotbed formed of sweetened dung, over which is to be placed a frame, the seed of Radishes being sown in the early part of November. The temperature of the bed should be 65° to 75°, and the lights may be put on but withdrawn when the plants appear, the object being to prevent them from drawing and yet keeping them slowly growing. If the weather be frosty the lights must be kept on and frost excluded by a covering of mats over the lights in severe weather, the opportunity to give air being carefully attended to whenever the mildness of the weather permits. The temperature of the frame should be 55°. Gentle waterings will occasionally be required, also linings of fresh dung to maintain the requisite temperature of the bed. A sowing should be made every three weeks until the middle of February. The best kinds for forcing are Wood's Frame, French Breakfast, and White Forcing Turnip. We sow the kinds named on a border of light soil in a sheltered situation at the end of September, and they come in in early November, and give a supply until near Christmas, they being covered with straw in severe weather, removing it when mild. The China Rose and Black Spanish, sown at the end of August or early September, are fine for winter, they being protected from frost or taken up in case of severe frost and stored in sand. Rampons are also useful for winter salading, the seed being sown in May, the roots taken up in autumn and stored in sand. Lettuces should be sown for winter use about the end of July or early August, which will give plants if properly cultivated which may be transplanted in frames during November; they, being well ventilated and kept from frost, will give a supply until Christmas. They cannot be kept too cool, only exclude frost and wet. For plants to succeed them sow the third week in August on a warm border in rows 3 inches apart, and the length of the frames the plants are to be covered with. Thin the plants to 6 inches distance apart in the rows, and place on the frames in November. Air to be given very freely, and the plants kept from frost by litter placed against the sides of the frame, and mats with straw over the lights, removing in mild weather. They will succeed those transplanted in frames, and continue until the autumn-sown outdoor plants come in. Every other plant should be cut, which will give more room to the plants left. The best kinds for winter use are Cabbage—All the Year Round, Early Paris Market, and Stanstead Park; Cos—Brown Sugarloaf, Hicks's Hardy White, and Bath (black-seeded).

SOIL FOR FERNS (M.).—The bog peat is not suitable. Kent peat answers well, and so will the heath peat if brown, fibrous, and sandy. The brown fibrous bog peat will grow the stronger-growing kinds especially "tree" kinds well. We find a majority of Ferns to do well in turfy loam; indeed, the home of most Ferns is a loamy soil overlaid with vegetable matter, the debris of their own or previous vegetation. We advise, however, two-thirds of brown, fibrous, sandy peat, one-third of yellow turfy loam, and a sixth of silver sand, which will suit most kinds, whilst for the strong-growing sorts

we should not scruple to use the "brown, fibrous, bog peat," which as it grows Rhododendrons very well would grow Ferns; yet we have used black bog peat, and it became a soapy mass in which nothing flourished for a long period. Leaf soil from decayed leaves is objectionable for the same reason.

POTTING LILIUM ABRATUM (S. E.).—Mr. Wood cuts down the stems of his Lilliums at the same time that he pots them. He also gives each stem a slight twist and it comes out of the bulb; then there is no part left in the bulb to cause it to decay. Mr. Wood's bulbs have been potted rather more than a fortnight. The pots are plunged in leaf soil on a dry bottom, not in ashes, which when employed fresh contain sulphur, which is washed out of the ashes with rain and is injurious to the Lilliums. The plants are watered with liquid manure water as soon as the pots are full of roots until the flowers are ready to open, then soft water only is given. The bulbs are placed half way down the pots, good drainage being provided.

RENEWING VINE BORDER (C. W.).—We are situated where the subsoil and other surroundings are the same as yours, and have also had the Vines to shank similar to yours. Our plan, which has been successful, has been to dig a trench at that part of the border furthest removed from the Vines, the trench to be as deep as the bottom of the border; then with forks remove the old compost and raise the roots nearer the surface. Our Vines are planted inside, and the borders are both outside and inside. We only do one border at a time, and generally find all the best roots in the gravel underneath. We renew the border with a compost of good turfy loam eight parts, decayed manure one part, and to each cartload add a bushel of charcoal and a peck of crushed bones. Our borders are not concreted. Messrs. Backhouse of York could supply you with plants of the Campanula you require, but not very likely with seeds.

GREENHOUSE CLIMBER (R. M.).—Any of the London firms can supply the creeper you want, or will obtain it for you. *Bignonia Chamberlayne* with yellow flowers, or *Passiflora cinnabarina* with bright red flowers, would suit you. The common large-leaved Ivy is the best for covering walls quickly. We cannot recommend dealers in such plants.

SNOW PANSIES (C. J. B.).—It is best to propagate young plants annually. You will find a number of slender growths springing from the base of the plants; these are the best to make into cuttings, which strike freely now, or, indeed, at any season under hand-lights.

CHERRY TREE UNFRUITFUL (Idem).—It is not uncommon for the fruit to drop off as you describe. Root-pruning or lifting the tree altogether would not mend matters. Indeed, there is no help for it, as nearly all the varieties of Cherry trees throw off part of their fruit in a green state, some more than others. Governor Wood, May Duke, Elton, and Black Tartarian are free-bearing sorts.

CULTURE OF TYDEAS (J. A., Croydon).—These plants require similar treatment to Achimenes. Pot them in peat and leaf soil with a good proportion of silver sand. The plants like plenty of heat when growing. They also require a short season of rest, but the roots must not be too much dried, as they do not form tubers similar to *Genesiras* and *Achimenes*. After a short season of rest it is best to start them again.

HOLLYHOCKS (Quiz).—For treatment see "Doings of Last Week." Frank Gibb Dougal, James Laing, Mrs. Laing, and John Stewart, are good varieties. Six fine Dahlias are—*Artiste*, *Christopher Ridley*, *Canary*, *John Sandish*, *Ovid*, and *Herbert Turner*; and three of the best *Fuchsias* are *Avalanche* (Smith), *Mrs. Marshall*, and *Mrs. Cannell*.

LENGTH OF GREENHOUSE LIGHTS (L. F. C.).—You do not inform us whether the width of the house includes the side walls or is the interior width only. The back lights being 4 feet 8 inches you will need lights for the front part of the roof 5 feet 6 inches in length, presuming the whole width to be 9 feet, including the side walls, which should not be less than 9 inches thick, but should the width be 9 feet clear of the walls inside you will require lights for the front part of the roof 7 feet long. The lights should project 1 to 1½ inch beyond the walls. We should have the front of the house above 2 feet 8 inches from the floor line cased for glass, and every other light made to open, with corresponding lights in the upper part of the roof also to open for ventilation. As your house is not to be heated we should be content with such plans as will be useful to you in future years for forcing, such as *Deutzia gracilis*, *Dielyria spectabilis*, *Spiraea japonica*, *Prunus sinensis alba flore-pleno*, *Helleborus niger*, and *Tea-seeded* Roses. Clematises *Lady Londesborough*, *Miss Bateman*, and *Albert Victor* are very fine. With these and bulbs—*Hyacinths*, *Narcissuses*, *Tuipis*, and *Crocuses*, you may have an effective display in spring, especially if you add a few of the early-flowering *Rhododendrons*, and a *zalea pontica* in variety.

CANON HALL MUSCAT GRAPES STONELESS (Alfred Powell).—Stoneless Grapes betoken a want of vigour in the Vine. Is the soil thin and poor? If so, lose no time in applying a liberal surface-dressing of manure, to which add any such substances as wood ashes, mortar rubbish, burnt weeds, or chopped turf. How about the drainage and watering? Any defect or want in either respect does harm. If nothing is wanting in any of the points indicated, and the crop is abundant and fine, then we can only suggest careful impregnation next season with pollen of this or any other Grape, taking care to remove the globe of moisture so frequently found upon the pistil of the flowers of this Grape before you apply the pollen. Our reply to your inquiry is necessarily suggestive rather than conclusive, for you tell us nothing about the condition of the Vines.

HEATING A PLANT PROTECTOR (An Old Subscriber).—If you have any hot-water apparatus the best plan would be to run a 3-inch pipe round the sides. Such a pipe could, of course, be attached to an ordinary kitchen boiler. Failing the pipe, a small furnace and brick flue would answer very well, letting the flue pass through or rather under the centre in an open trench of brickwork, the top of the flue being a few inches below the bottom of the protector, with a grating or strips of wood over it, whereon plants might be placed, as the heat need never be so violent as to parch the roots, your object being only to exclude frost. One flue would suffice, the furnace being at one end, and the chimney with a damper near the bottom at the other end.

VENTILATION OF A CONSERVATORY (A Subscriber).—If by drawing down the blind and opening all the ventilators you cannot reduce the temperature to within a few degrees of that outside the house, then more openings must be made in the roof, where in any case there should be some ventilators near the ridge on the south slope, or how can you admit air when a cold north or north-east wind is blowing on a clear day? We are inclined to think there is something wrong in the watering. Do you give enough water during hot days? All the plants do not require water at the same time, and in hot weather they must be inspected three times a day, taking care that all neces-

sary watering is thorough. If any doubts exist about a plant, submerge the pot in water, and if bubbles come freely to the surface it is a certain sign that the centre of the ball is dry, and the pot must remain under water till bubbles cease rising.

REMOVING ROSE CUTTINGS AND BEDDING PLANTS IN WINTER (S. B.).—Take up the Rose cuttings and pot them immediately, and they will be well established in the soil by the time of your removal. Bedding plants may be taken out of the pots, the loose soil removed, the plants packed in hampers, and repotted at the end of the journey with perfect success. Especial care must be taken to pad the sides of the hampers with moss or hay to exclude frost, and not to overwater the plants when they are repotted.

VARIEGATED ASH AND CORCHORUS JAPONICA (Idem).—Both the yellow and white variegated forms of the Ash are now well known and widely distributed. The first is *Fraxinus aucubefolia*, and the other *F. argentea* variegata. *Corchorus japonica* variegata is also quite common. It will be better recognised under the more familiar name of Kerria. It is readily propagated by cuttings, young plants often being turned to good account in flower beds and borders, the slender growth and variegated foliage having a sprightly and very ornamental appearance.

TERRA COTTA STOVE (J. C. B.).—Our correspondent asks for information from any reader who has used one successfully without piping to heat a very small greenhouse.

CELOSIA (E. R.).—The roots must be kept active. Apply a little tepid liquid manure.

SEA SAND FOR GARDENS (An Old Subscriber).—The value and usefulness of such sand for the propagation of cuttings and raising seedlings altogether depends upon the proportion of saline particles which it contains, a superabundance being likely to prove fatal to tender growth of seedlings. You can, however, readily test it before accumulating any quantity, and we shall be glad to learn the result. Sand impregnated with oxide of iron is fatal to most, but not quite all seedlings. The seed vegetates freely enough in it, but the cuticle of the seedlings is destroyed so quickly that every plant disappears in a few days. The sand and half-decayed mussel shells will undoubtedly prove highly beneficial to your stiff loam.

NAMES OF FRUITS.—Our best authority being absent our correspondents must wait a week or two for the identification of fruits they have sent.

NAMES OF PLANTS (J. G. G.).—1, *Aspidium angulare*; 2, *Asplenium flaccidum*; 3, *A. Hookerianum* (?); 4, *Dicksonia antarctica* or a close ally; 5, *Blechnum occidentale*; 6, *Onychium japonicum*. (*E. A. P.*)—5, *Cystopteris fragilis*; 6, *Polypodium Phegopteris*. (*John*).—1, *Pteris serrulata*; 2, *Pteris cretica*; 3, *Lygodium japonicum*; 4, *Selaginella uncinata*. (*W. W. A.*)—*Ceratopteris thalictroides*. (*E. H. B.*)—*Tritonia aurea*. (*Grilloote*).—*Hedychium*. (*J. C.*)—1 and 3, *Nephrodium dilatatum*; 4, Probably *Nephrodium molle*; 2, Indeterminable. (*J. P.*)—1, *Veronica spicata*; 2, *Isolepis gracilis*; 3, *Achillea millefolium*. (*H.*)—*Aster Tradescanti*? (*I. E.*)—*Nicanthera physaloides*. (*M. B.*)—*Lysimachia vulgaris*. (*John Horton*).—It is probably a *Cotoneaster*. (*Murck*).—The Field Sow Thistle (*Sonchus arvensis*).

POULTRY, BEE, AND PIGEON CHRONICLE.

THE OXFORD POULTRY SHOW SCHEDULE.

The sixth Oxford Show is to take place on October 24th and 25th. The career of this favourite Show has been a successful one. It has increased in popularity and strength until now it has become nearly the second in importance. We hope Oxford has not yet gained the summit of its success, and that when it does reach it that there it may remain. Too large a committee generally do more harm than good, but when only the names of two or three gentlemen appear upon a schedule as the committee many wonder why more neighbouring fanciers have not embarked in the enterprise, and are wont to fear that some sort of private speculation has been the cause. We can tell of one or two great shows which began with a certain number of committeemen, and allowed that number from various causes to decrease until only two or three gentlemen remained, who, having the reins in their own hands, tried to ride roughshod over exhibitors, and they failed. We trust this may never occur to Oxford. There are many good fanciers in the city and its environs, and we hope that, as the number from any cause lessens of the present Committee, the ranks may be replenished. It has not been done hitherto, for we can remember other names in the list which do not now exist; some because removed by death, and others from resignation; and now we learn that two more of the number intend to take their names from the list of the Committee after this Show. We have even heard that the Secretary has in contemplation the removal of his name as well. For the sake of this Exhibition we must here publicly beg him to continue, for there is no other gentleman connected with the Show who could manage the working of this Exhibition.

The schedule this year is better than ever. Its excellent classification is remarkable, for nearly every existing breed is here provided for. There are as many cups for the poultry as there are weeks in the year, while Pigeons have also a very large number; and for all these pieces of plate, liberal prizes, and the entry fee is only 6s. a pen for poultry and 3s. 6d. for Pigeons. We do trust all exhibitors will note this, for in these days of frightfully exorbitant entrance fees a show whose prize money is large and the opportunities of obtaining it so inexpensive requires hearty support. Among the rules we note that all the modern improvements are in vogue here, and we see that the Committee rightly reserve the power to refuse any entries and to elect an additional Judge if required, but we confess we

see with regret that the price of a catalogue is raised to 1s. It is far too much, and we heard at Ipswich loud and frequent complaints of the price of the catalogues, though they were, as they are at Oxford, got up in first-class style. Among the various classes for poultry we will only touch upon the particular ones. Black Cochins breeders will hail their class surely with gladness after the insult they have received at the Alexandra Palace, where they are entirely omitted, while their cross-bred allies the "Long-shins" have a class and a cup. Black Red Game cockerels here have a £10 cup and pullets a £5 5s. one, while there is also a £3 one for undubbed cockerels. Polands, Blacks, Silvers, and Golds, each have a cup, and so have Brown and White Leghorns, Silkies, Sultans, Andalusians, and Malays. For the Variety class there remain only La Flèche, Minorcas, Chamois, Polands, and such odds and ends. The Waterfowl have grand opportunities of showing themselves. There are classes for Aylesburies, Rouens, Black East Indians, Pekins, Call, Mandarin, and Carolinas, and any other variety not before mentioned. Pheasants, too, have a class, and Turkeys and Geese each a cup. Six selling classes with an entrance fee of 5s. per pen and twenty-three prizes finish this section, where the awards will be made by Messrs. Hewitt and Teebay; and the various classes each gentleman will adjudicate upon, as well as the allotted portions in the Pigeons to Messrs. Allsopp, Esquilant, and Jones, will be next week announced in these columns. The entries will close on Saturday, October 6th, but entries posted on that day will be in time. The Pigeons have seventy-five classes, of which Dragons have eighteen, Carriers eight, Tumblers six, Antwerps seven, Owls five, Jacks five, Pouters five, Turbits four, Magpies three, Fantails two, and Nuns, Archangels, Swallows, and the Variety class one each.—W.

THE AQUARIUM PIGEON SHOW.

SECOND NOTICE.

In resuming the subject of the Aquarium Show I would begin by stating that I never at any show saw the birds better looked after. Food supply, water supply, sand, all excellent. There are some occupations—would there were more—suited to women, and among them the care of birds, but until recently I never saw this work in the hands of a woman; but at the last Show, as at this, the chief feeder was a daughter of the late Mr. Cummins, a fancier of former years. Well did Miss Cummins do her work; she delights in the birds, and loves to be among them. Such a good feeder is a gain to fanciers, and I hope to see her employed at other shows.

In future poultry exhibitions at the Aquarium I hope the Pigeons will have the gallery, where they could be well seen and no pens be one above another. I now am standing in front of the Blue Pied Pouter cocks. Here the chief object of interest is the bird who wins Captain Hill's challenge cup value fifteen guineas, the same bird to win it three times. The same owner and bird have won it twice—Mr. McCulloch of Belfast; but Mr. Baker's bird won this time. Both on Tuesday and Wednesday this bird was so hopelessly out of show when I saw it—a mere mass of misery, with its crop hanging, that I could not judge of its merits; as show, or even move, it would not. "Sick and sad" was my verdict. The other bird of Mr. Baker's does not call for particular notice; but, as recorded last week, the very highly commended of Mr. Fulton will be the bird of the future. The Black Pied—These are getting more slender, but are they quite as good in colour by the crossing to get the slenderness? This first was also, with shape and half-moon, also of a good colour. The Yellow and Red cocks.—First a Yellow, second Yellow also, but poor in colour; third a Red; very highly commended (567) capital as a Pouter, but too gay in crop. The White Pouter cocks formed an excellent class, one getting cup. The third (Mrs. Ladd) was sadly in moult. If the White cocks were good the White hens were even better. Messrs. Ridley and Dye were the most successful. The Blue Pied hens were less to be remarked, while the Black Pied shot clear above them, the cup hen having limb, colour, and shape, and being altogether excellent. The Yellow hens—first Ridley & Dye, the best Yellow in the Show. The other colour and marking cock or hen had as Al a good Mealy of the true colour, with the usual Mealy excellence in shape, good globe, and great length. The Pigmies were in both classes very numerous, and the effort to breed them of standard markings seems to be more and more successful. The first hen was really a good Blue Pouter in miniature colour, bars, and shape; and the third cock was the same, but not so good; while the third hen was a fair Blue but bishoped.

Passing on I reach the Carriers. As showing how rare is very great excellence in fancy birds, as in everything else, here were only three to compete properly qualified as having won not less than three first prizes of value. Mr. Ecroyd's bird, which cost him £100, was winner, but the two next were close upon his heels, particularly the Dun. There the three birds stood, the cream of the Carrier world. Among the old Black cocks Mr. Hedley's, though ragged with moult, was first, as he deserved to be; a fine three-year-old bird. As a class the old Black cocks were excel-

lent; Cucksey second, Stretch third. The Dun cup bird (Mr. Hedley's) all he should be save in colour. The Blue cocks.—First a good wattled bird, and in build, &c., no Dragon; second cloudy in colour but a fine Carrier. White or Pied cocks.—First White, too short in face; second White, a capital shape; third an old friend, Mr. Ord's Mottle. Carrier hens, Black.—Cup (Fulton) a very rag from moult, but grand though a rag. Dun hens better than Blacks. Blue hens.—First a bird of shape, second strong and large.

Young Black Cocks.—Last week spoke against the cup cock, so I see no reason to reconsider my words. The first Dun was good in colour, narrow in head, and very promising. In Black hens the Judge was all right in giving the cup to Mr. Heritage's bird. The Dun and Blue hens call for no comment.

Dragoons.—Blue and Silver cocks good, especially the former, but the great praise must be reserved to the Red and Yellows. The cup Red (Sargent's) was simply splendid, in deep colour and proper Dragon formation; an excellent Yellow came second, and a good one third. The White cocks very few. There was a class for Blue-chequer, and Red-chequers also appeared. These colours are too much associated with Antwerps to be very pleasing in Dragoons. I think special Chequer classes a mistake; better to keep to the established colours, admitting, however, Grizzles to a class. The Dragon hens, Blues.—Second a very charming bird, but as a class very inferior indeed. Silvers.—First really good. Red and Yellow, however, the queens among the old Dragoons. Cup an excellent Yellow in colour and properties. Blue-chequers better absent. Among the Dragoons of 1877 the Silver-cup bird (Mr. Wood's) much the best. I come now to the Short-faced Tumblers. Almond cocks.—First and cup (Henning)—head, beak, carriage, a gem; second good carriage; third old and rich in colour. The old Almond hens not remarkable. Now I come to the birds hidden under the upper tier, and these were unfortunately such birds as require a strong light to see their full beauty, such as Almonds and other delicately-shaped Tumblers. Among these latter Agates seem now to bear the bell, and very good and pretty birds were shown. The Black Mottles were, as always, few but very choice, and the cup bird charming. As to Balds, where were Mr. Woodhouse's birds? None shown were quite up to the mark. Barbs next, and the old ones certainly good, both in Blacks, Reds, and Yellows. Mr. Frith's cup Black cock was supreme in excellence, though Mr. Hedley's Red pressed him close. Among Barb hens Fulton's Yellow (1080) pleased me best. The young Barb cup hen (1092) was alone much distinguished.

Next Jacobins, which appeared to give the Judges much trouble, and in spite of the moult, and the pens of some were carpeted, were excellent in all classes. We get now in Jacobins "lots of stuff," length of feather; but there is, yes there is, oh! fanciers, too great coarseness in the Reds and Yellows. This fault needs removal. Red cocks a very good class. First long in feather but not fully moulted in tail, not quite as dark in thigh as he ought to have been for his high position. The Red Jacks have now become very good in colour. Colour of Yellows as a rule good also. First Yellow cock a little too long-faced and not down-faced, second in miserable moult, third a first-rate bird, though placed third. But if Reds and Yellows good, Blacks much better. I quite agree with Mr. Fulton that the Black Jacobin is the Jacobin from contrast of feather. Cup bird a very gem in hood, eye, face, and colour; a great credit to Mr. Heritage's loft. Third better than second, except that it was short in flights. Red, Yellow, and Black hens good. Then came those most charming Pigeons the Whites, at present shown cock or hen. Of all fancy Pigeons these and the African Owls best deserve the title of "pretty." Mr. Salter's cup bird a very exquisite Jacobin; his second good; so also Mr. Baker's third.

Any other Colours, Cock or Hen.—An interesting class. Here were Mottles from which the Whites are made, and the pearl eyes kept up. First a Mottle, second a Dun, third a Strawberry. The two latter the result of crosses, but as Jacobins excellent. Fantails, prizes for both English and Scotch birds. I hope one style only would be shown everywhere, the compound of English and Scotch. The cup English bird all that is wanted, shape and motion without super-motion. Fantails, any other Colour.—The winners as usual being all Blue. Nuns.—A neat nice lot, and as I recorded with pleasure last week, a Red one won a prize. Trumpeters.—Ten pens, and eight of them good. Swallows.—First a Black, second a Red, third a Blue. These are great ornaments to a show. Archangels.—Cup bird alone in great superiority. The champion class of English Owls brought of course few, but the best in the fancy, four birds only, and all noticed. Mr. John Ecroyd, the champion Carrier winner was champion winner here too. The next classes of English, Blue or Powdered Blue, and Silver or Powdered Silver, brought only one real Powdered Blue and one real Powdered Silver, but as Owls these classes were capital, and more than half were noticed, but semi-powdering is not enough. The other classes of English Owls were, too, very good, and a Silver hen (Salter's)

took cup No. 45. Foreign Owls much less numerous. A beautiful Blue (Wilde's), took the cup. The other winners were White. Turbits a show of themselves, pretty Pigeons now seem thoroughly appreciated; 119 Turbits to sixty-five Pouters. Never before so many Turbits seen together. The cup went to a Black (Mr. Ecroyd). Altogether nearly sixty Turbits received some notice. N.B.—I am glad the Shell-crowned had a class.

Maggies made-up in goodness what they lacked in numbers. A Black bird won cup No. 48. Runts a little more numerous, and as one had a cup we may expect to see more next time. The Flying Tumblers, Balds and Beards.—The former the best. Then the Any other colour brought Mottles and whole colours of great beauty. These two classes give humble fanciers a chance.

A beautiful class of Short-faced Frilled varieties followed, such as Satinets, Turbites, &c., and attracted much attention from non-fanciers, and more than half being noticed showed their excellence. Antwerps of the two varieties and the Selling classes brought up the rear, together with a special Flying class.

Such was this beautiful Pigeon Show of nearly 1200 birds. It was held a little too soon in the season, especially such a season as this, but it was very beautiful nevertheless. The time has now come, I think, for, in London, the Pigeon Shows to be separated from the poultry; there is not sufficient room for both. Then, again, a very large proportion of Pigeon fanciers reside near London. The Pigeons can now stand by themselves, and are more pleasing to London visitors than poultry. —WILTSHIRE RECTOR.

OUR DUTY TO OUR FOUR-FOOTED AND FEATHERED NEIGHBOURS.—No. 5.

CRUELTY TO PIGEONS—THE SHOOTING MATCH.

In speaking of the cruelty to Pigeons entailed by a shooting match I will not draw upon fancy in the least degree, but upon memory. A group of boys in an east of England school—an old-fashioned grammar school, and strange to say held in the south transept of the parish church (transept then walled off, now properly thrown into the church at a recent restoration). These boys were debating one cold winter's morning upon the news of a Pigeon match and the desirability of asking for a holiday. The poor master—worn with troubles and ill health, never loth to give a holiday unless he thought the parents would be offended—after a show of resistance to the request soon yielded; then followed the brief and hearty thanks, then a rush was made to the door, and away the lads run—waving their caps, shouting their joy. Boys must make a noise if happy; the buoyant spirit must break out in cheering, and laughing, and shouting. Is not a nursery with healthy children in it always a noisy place? By the way, is there any pleasure so great on this old earth as that of a schoolboy's holiday? Only a day, a brief day, and then back to desks, and books, and slates; yet all are forgotten, all disappear as by magic. The arithmetic dunces forgets even the hated rule of threes. To-morrow the school work will begin again; but that will be to-morrow. To-morrow in a light-hearted boy's mind is a hundred years hence. To-day is life, and life to be enjoyed. Oh! early days, when the blood is quicksilver.

"Bliss was it in those days to be alive,
And to be young was very heaven."

No competitive examinations then in my day, no priggish lads who were all work and no play. We didn't like work, and we did like play; and oh! we did enjoy a holiday. No city clerk enjoys his bank holiday more; not so much, poor fellow, I wish he did; but his happiness is dashed by the thought of the mill and its same dreary round which will begin again to-morrow. It is only the boy forgets the coming morrow.

But how about the Pigeon match? We joined the concourse of men and boys who, a thick-packed crowd, were going to the place of meeting, hampers full of Pigeons preceding us. I soon began to feel ashamed. All the rascality of the town were in the crowd. It was a beer-and-tobacco-smelling crowd, even at that early hour. It was a cursing swearing crowd and a betting crowd. No girl or woman was there, whose presence has a wonderfully restraining influence; they absent, bad men grow worse. The ground for the shooting is reached, the trap set up, and I hasten to the baskets—I, a young Pigeon fancier—to see the Pigeons. There they are, crammed into hampers with no room to move; but crowded many deep, so deep that afterwards it was found several at the bottom were dead. There are the poor birds wing over wing, head over head, pecking each other and struggling. Then they are not even the so-called Blue Rocks, not even the Blue Dovehouse Pigeons got from the farmers' dovecotes in the country, but any mongrel. Here a feather or two on the neck showing a Jacobin cross, there a long beak showing a Dragon cross. A little man in a fur cap supplied the trap. Why is it that a fur cap is a sure indication of a scamp? But so it is. Dickens has represented the blackguard in "Our Mutual Friend" with that head-covering. When the poor wicked wretch of the story had been nearly drowned and

was slowly recovered by the doctor his first words were, "Where's my fur cap?"

Beware of a man who wears a fur cap, especially if he has little leering red eyes. If he is an undersized man he is a crafty rogue, if a big man he is burglariously inclined. "Fur cap" puts the first bird into the trap, which being suddenly opened reveals the poor scared thing standing on the little platform and too frightened to move. Driven away with stones it flies straight towards the shooter, and towards death; happy bird, one shot and dead. Not so other birds. They are not so fortunate, the shooter misses or he wounds only; a few feathers fall, but the bird flies on. Was there but one gun the matter would not have been so bad and the contest not so unfair, but out of the marked ground in fields all round were scouts—hobble-de-hoys armed with all sorts of rusty guns. The poor escaped or wounded birds have to run the gauntlet of these; bang, bang all round, and continuously. Some of the birds that were out of reach get across back again, and are again into the fire, so confused are they; of course, there are some Pigeons—the cleverer fliers, probably half-bred Dragons or Skinnams—who, on being missed by the shooter, rise clear up, and being above the shot of the scouts go off straight to their homes. I knew one such bird in another part of England who was sold every winter for the shooting, and always came back untouched. The farmer used to look out for him soon after the shooting began and watch him fly back, and call the children with, "Here's our old Tom back again." But such luck is very rare.

But to return to the match at which I was present. I stood usually near to the shooters, two of whom were very much the observed of us all. One—a low class man who had married a widow with good means, and whose "get up" was of most elaborate sporting style then in vogue; poor fellow! he soon after got to his regular pint of brandy a-day besides other drinks, and of course he died. But another, and the very best shot there, was still more noticed by us boys, for some years before he had been at our school. He was now just of age, and had come in for a considerable property, soon alas! to be all run through. Then there were the sporting tailors and shoemakers, &c., who were betting pence on either gun or bird; and quarrels consequent upon the betting till the whole air rang with bad language. As to pleasure, nobody seemed pleased unless it was some scout who had managed to bag a Pigeon or two. Towards afternoon the cold and damp with the wind came up from the fens, and we boys, even with hands in pocket and jackets buttoned-up, shivered to the bone. Oh! those dreary ugly old fens! how the cold damp of them seemed to enter into one's limbs, how the water mills turned by the wind seemed as evening came on (I have counted twenty-five from one site) to grow bigger until they had a weird, uncanny, ghostly look, and I go home hungry, cold, and unhappy. Why unhappy? Because I had witnessed cruelty to poor birds—shameful cruelty, unfairness to the poor things; and then what had I heard and seen around?—bad language, drunken blood-shot eyes, and bloated faces.

Are Pigeon matches now-a-days as bad as this? Some may be, though manners and morals are better than formerly. But there has come another feature—women attend them. Ladies, dainty ladies, whom a drop of blood affrights, give their presence, and they go to what has been called in refined words "a tournament of Doves." A wrong title, for a tournament means a mock encounter, and it is the reverse to the poor Pigeons. Legitimate sport there is among the stubbles on an English September on the hills after the grouse; but a Pigeon match is not fair sport—cruelty before it begins in the crowded hampers, cruelty at the time, and cruel suffering to the poor wounded birds afterwards as they sit moping and miserable in their lofts. Would that all felt what I a boy felt—shame and disgust; and did as I did, never be present at another match.—WILTSHIRE RECTOR.

BEES AT FLOWER SHOWS.

THE experiment of holding a bee and honey exhibition in conjunction with flowers and fruit has during the present year been tried with unvarying success at Weston-super-Mare, Taunton, Dorchester, Wolverhampton, Sherborne, Carlisle, Grantham, Berkhamsted, and at least half a dozen other places, and has tended not a little to add to the interest and enjoyment of the day; and it is astonishing what a great attraction an observatory hive of living bees is to the general public. I may safely say not surpassed by the finest dish of fruit or flowers. In many prize schedules of small provincial shows it is customary to offer a trifling prize for honey, rightly considered a floral production; and if the committees would extend their honey prizes and open them to all comers I feel sure they would make a move in the right direction, and, with an exhibition of hives added, do much towards placing before their poorer neighbours a means of increasing the family income. At most of the shows I have mentioned practical demonstrations of driving, artificial swarming, transferring, &c., have been given, the spectators being fenced off from the flying bees by a gauze screen; but in some instances, so eager has been the curiosity of the crowd, that the

slight barrier has been demolished without any apparent penalty being enforced by the disturbed bees. Indeed at Berkhamsted, where I was the manipulator, we had no screen whatever. I drove the bees from their full hive to an empty one and afterwards returned them, closely surrounded on all sides by an eager and curious crowd, some of whom readily became my assistants unprotected by either veil or gloves, and I heard no single complaint of a sting being used. After my exposition an old man remarked to me, "Well, sir, I have taken up bees many years with brimstone, but after what you have shown us I hope to try next time to do as you have done to-day."

Country gentlemen who have learnt to handle bees fearlessly are now numerous and widely scattered. They would do much in the cause of bee culture if they would inaugurate bee shows, in conjunction with flower shows or not, in their various localities; and if the want of funds stands in the way, then let a small charge for the bees be made, and it will be found readily met. At Ealing Horticultural Show this season no provision had been made for bees, but I placed an observatory hive on the table, and such was the interest excited that before the day closed the Committee resolved to have a bee show next year as an auxiliary to that of the fruit and flowers.—JOHN HUNTER, *Eaton Rise, Ealing.*

OUR LETTER BOX.

ADDRESSES (A. B. C.).—We do not know those which you ask for. Write to the Secretary of the show.

UNITING STOCKS (Anxious).—You have nothing to fear, as both the hives you name are in pretty good condition for the winter. Contract their doors, keep them warm and dry, and look forward to next year for a good return from them. The best way of uniting swarms is occasionally discussed in our columns.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.						Rain.
	Baromet. at 9 a.m. and Sea Level.	Hygromet- er.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		In. sun.	On grass.	
		Dry.	Wet.			Max.	Min.	deg.	deg.			
1877 Sept. and Oct.	Inches.	deg.	deg.	W.	deg.	deg.	deg.	deg.	deg.	In.		
We. 26	30.277	51.8	50.1	W.	51.4	64.0	45.5	99.5	43.6	—		
Th. 27	30.399	44.5	44.3	W.	51.1	60.2	38.2	99.3	35.7	—		
Fri. 28	30.363	50.9	49.3	N.	50.8	64.4	39.2	102.6	35.0	—		
Sat. 29	30.267	48.3	48.3	N.E.	53.9	64.9	42.0	103.0	37.8	—		
Sun. 30	30.189	55.0	50.9	N.E.	51.2	65.9	43.4	106.7	38.2	—		
Mo. 1	30.193	51.1	49.1	N.	51.1	63.3	44.6	99.2	40.1	—		
Tu. 2	30.083	45.4	43.3	N.	51.5	61.5	38.3	100.3	34.2	—		
Means	31.253	49.4	48.2		51.6	63.5	41.6	101.5	37.8			

REMARKS.

26th.—Grey early, but fine forenoon, and bright all day; rather less so at night.
27th.—Dense fog all the forenoon, clearing off about 1 P.M.; very pleasant afternoon and evening.
28th.—Very fine all day, though slightly cloudy about 1 P.M.
29th.—Very bright and fine all day.
30th.—Bright, fine, and fresh all day.
1st.—Another bright autumnal day.
2nd.—Hazy at 9 A.M., but soon followed by bright sunshine all day.
Fine autumnal week. Slight fogs in morning and evening, but not a drop of rain.—G. J. SYMONS.

COVENT GARDEN MARKET.—OCTOBER 3.

THERE is scarcely anything of importance to quote this week, the supply of goods being much the same as previously, and trade quiet.

FRUIT.

	s. d. s. d.		s. d. s. d.
Apples.....	½ sieve 2 6 to 3 6	Oranges.....	£ 100 10 0 to 15 0
Figs.....	dozen 1 0 3 0	Peaches.....	doz. 8 0 24 0
Fiberts.....	lb. 0 4 0 6	Pears, kitchen.....	dozen 1 0 3 0
Cobs.....	lb. 0 4 0 6	dessert.....	dozen 2 0 4 0
Grapes, hothouse.....	lb. 1 6 6 0	Pine Apples.....	lb 5 0 8 0
Melons.....	each 1 6 4 0	Plums.....	½ sieve 10 0 12 0
Nectarines.....	doz. 4 0 18 0	Walnuts.....	bushel 5 0 8 0

VEGETABLES.

	s. d. s. d.		s. d. s. d.
Artichokes.....	dozen 3 0 to 6 0	Mushrooms....	pottle 1 6 to 2 0
Beans, Kidney.....	bu-hel 2 0 4 0	Mustard & Cress	punnet 0 2 0 4
Beet Red.....	dozen 1 6 8 0	Onions.....	bu-hel 0 0 0 0
Broccoli.....	bu-hel 0 9 1 6	Pickling.....	quart 0 4 0 0
Brussels Sprouts.....	½ sieve 0 0 0 0	Salsify.....	doz. bunches 2 0 0 0
Cabbage.....	dozen 1 0 2 0	Parsnips.....	dozen 0 0 0 0
Carrots.....	bunch 0 4 0 8	Pears.....	quart 0 6 1 0
Capiscums.....	£ 100 1 6 2 0	Potatoes.....	bushel 3 6 5 0
Cauliflowers.....	dozen 2 0 4 0	Kidney.....	bu-hel 5 0 7 0
Celery.....	bundie 1 6 2 0	Radishes.....	doz. bunches 1 0 1 6
Cole-worts doz.....	bunches 2 0 4 0	Rhubarb.....	bundie 0 6 1 0
Cucumbers.....	each 0 8 0 9	Salsify.....	bundie 0 9 1 0
Endive.....	dozen 1 0 2 0	Scorzenera.....	basket 0 0 0 0
Fennel.....	bunch 0 3 0 0	Seakale.....	basket 0 0 0 0
Garlic.....	lb. 0 6 0 0	Shallots.....	lb. 0 3 0 0
Herbs.....	bunch 0 2 0 0	Spinach.....	bu-hel 2 6 4 0
Lettuce.....	dozen 1 0 2 0	Turnips.....	bunch 0 5 0 0
Leeks.....	dozen 0 4 0 0	Veget. Marrows.....	each 0 2 0 4

WEEKLY CALENDAR.

Day of Month	Day of Week	OCTOBER 11—17, 1877.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
11	Th		61.7	42.4	52.1	6 19	5 14	0 a 35	7 9	5	13 18	284
12	F		59.2	41.4	50.3	6 21	5 12	1 31	8 7	6	13 33	285
13	S	Twilight ends 7.4 P.M.	60.7	41.8	51.2	6 23	5 10	2 12	9 16	7	13 47	286
14	SUN	20 SUNDAY AFTER TRINITY.	59.9	40.5	50.2	6 25	5 8	2 40	10 29	8	14 1	287
15	M	Fire Insurance must be paid.	59.0	40.5	49.8	6 26	5 5	3 1	11 42	9	14 14	288
16	Tu	Valisnerius died, 1780.	59.0	40.1	49.5	6 28	5 3	3 16	morn.	10	14 27	289
17	W		58.8	40.7	49.8	6 30	5 1	3 28	0 55	11	14 39	290

From observations taken near London during forty-three years, the average day temperature of the week is 58.3°; and its night temperature 41.0°.

INSIDE VERSUS OUTSIDE VINE BORDERS.



NEARLY all Grape growers of experience agree that Vines succeed better with their roots in an outside border than under glass. At first this might appear singular, because Vines are generally understood to do much better under artificial treatment in this country than in a natural state, and certainly their roots are growing naturally when running unrestricted in the open ground. Why this difference should exist is an interesting

subject, and after considerable experience and thought on the matter I am convinced it is produced by a very plain cause. We will go no further than this season for a comparison between the two. Look at Vines now with their roots wholly inside and the fruit hanging on the rods. With the idea of improving the flavour of this fruit the border is kept nearly dust-dry. Many of the leaves are changing colour, but not the colour of slow maturity; they appear rather as if shrivelled and scorched. Can this be otherwise than injurious to the future well-being of the Vines? Take other Vines with their roots all outside: from the great amount of rain we have had the border cannot be otherwise than wet—actually saturated, and the roots plump, the foliage green, and the fruit swelled to its fullest extent. This is part of the difference between the outside and inside. Some might say the fruit must be deficient in flavour with the roots in a moist border. It is nothing of the sort; quite the reverse. I have tasted Grapes—all kinds of Grapes—over and over again from Vines with their roots outside, and in flavour they were in every respect equal, and in juiciness far superior to the half-raisin-like fruit of the inside Vines.

But it is not a small matter of good or bad flavour for one year that is of most importance. This is the chief question, Will the Vines succeed much better through all their existence with their roots outside than in? They will, or all my observations, and many others' besides mine, are wrong. Vines with their roots outside I have always observed as starting stronger into growth, remaining more healthy through the season, swelling their fruit better, colouring it better, and keeping it better from shrivelling, shanking, and other diseases than Vines having their roots inside.

I once saw a great many vineries planted in succession—two or three one year, the same number next, and so on. The vineries were made so that the whole of the Vines had to be planted inside, but at the same time they could reach the outside border after a year or two. During the time the roots were inside the Vines did not make the most satisfactory progress, and the first and second crops shanked; but after this, and as soon as the roots were plentiful in the outside border, the Vines made a more vigorous start than ever they had done, and since then shanking has been unknown, and the Vines have always been much freer from insects than formerly. Now, nothing whatever was changed inside from what it originally was, the only difference being the roots out-

side, and, curious to say, the soil and other ingredients in the outside border were the same in every respect to that inside. All the difference was the outside border was never covered, but was always moist, especially in the winter time, while the inside one was dry as being supplied with no water for five or six months in autumn and winter could make it. This would certainly lead one to suppose that Vines do better with their roots outside than in, because the outside Vines are never dry at the root. This I believe is the whole secret; and I believe further, that it is one of the greatest mistakes that can be made to let Vines become so dry at the root at any time as many think is advantageous to them. No young roots are more easily injured than Vine roots. I have seen them quite fresh at the outside of the ball of a Vine grown in a pot in the morning, and after the leaves have flagged for want of water during the day every one of the young fibres were dead at night. When the leaves are off the Vines of course it cannot be seen how the foliage might go down for want of water; but the roots will perish as quickly when the leaves are off as on, and there cannot be the slightest doubt that many young roots die in inside borders in the winter time: hence their deficiency of root-action, shanking, and other evils the following season.

Vine-border-making is included in the work to be done with us this winter. The outside will receive our very best attention, but the inside we will have nothing to do with.—A KITCHEN GARDENER.

THE ROSE ELECTION.—No. 2.

It is rather interesting to note the position of some of the Roses which have attained their place in the forty-eight, not by superlative merits, but I imagine rather by all-round good qualities. Such I consider those to be that have comparatively few first or even second-class votes, and yet find a place amongst the *élite* of the selected forty-eight—notably No. 13, Mdle. Marie Rady, has only five first-class votes; Edouard Morren, again, No. 19, has but two. It cannot, in fact, be said that there are a dozen Roses so generally excellent as to obtain two-thirds of the first-class votes. This is rather extraordinary, neither do I think it would have been suspected beforehand. Let us see.

Marie Baumann	} 43	Charles Lefebvre	} 42
Alfred Colomb.		La France	
Maréchal Niel and Baronne de Rothschild..		41	

Then comes even thus early a great drop, François Michelin obtaining only thirty-seven, a number that must increase if its constitution prove good, the only point I think of doubt about this great acquisition to our Rose list; then Marquise de Castellane rises above Etienne Levet, scoring twenty-four votes to the latter's twenty-three. In previous elections I have been surprised at this Rose being invariably placed over François Michelin, as in form it is so very inferior, at least as it comes with me, though I grant exceptional blooms are of rare beauty in other characteristics. Louis Van Houtte received

twenty votes, Duke of Edinburgh seventeen, Madame Victor Verdier fourteen. It is astonishing that in the first twelve Roses there should be a drop so large as this, the twelfth Rose failing to reach one-third the number of first-class votes. It may interest "WYLD SAVAGE" to note that, continuing this test, Catherine Mermet becomes fifteenth with nine votes, Dr. Andry and Eugénie Verdier tying at one vote above her; but to look down the second twelve tried by this test it would seem that our first-class Roses are but few. Contrasted with this some of the newer Roses, especially those of 1875, have proportionately a far larger number of first-class votes, though, probably from want of thorough trial, they have only a small number in the grand total; notably amongst these we may mention Mons. E. Y. Teas with four first-class votes, Comtesse de Serenyi with five, Duchesse de Vallombrosa with five first-class votes out of a total of fifteen; indeed it would seem very probable that these Roses with another season would stand considerably higher.

I now add the greater number of the amateur lists, and propose when completing this portion to make a few remarks on Roses that greatly resemble each other—a subject that has already excited some comment and that the list of one of our most esteemed rosarians brings again prominently forward.—JOSEPH HINTON, *Warminster*.

VOTES IN ELECTION.

In the following returns the Roses are placed in the order of merit—in twelve, twenty-four, and forty-eight varieties:—

R. N. G. BAKER, Esq., *Heavitree, Exeter*.

- | | |
|-----------------------------|--------------------------------|
| 1. Charles Lefebvre | 7. Camille Bernardin |
| 2. Alfred Colomb | 8. Baronne de Rothschild |
| 3. Marie Baumann | 9. François Michelin |
| 4. Dr. Andry | 10. La France |
| 5. Marie Van Houtte | 11. Maréchal Niel |
| 6. Maurice Bernardin | 12. Marquise de Castellane |
| 13. Souvenir d'un Ami | 19. Xavier Olibo |
| 14. Mdlle. Marie Rady | 20. Prince Camille de Rohan |
| 15. Souvenir d'Elise | 21. Sénateur Vaise |
| 16. Madame Caroline Kuster | 22. Monsieur Etienne Levé |
| 17. Marguerite de St. Amand | 23. Duc de Wellington |
| 18. Louis Van Houtte | 24. Emilie Hausburg |
| 25. Ferdinand de Lesseps | 27. Marquise de Mortemart |
| 26. Monsieur Noman | 33. Madame Charles Wood |
| 27. Monsieur E. Y. Teas | 39. Mdlle. Eugénie Verdier |
| 28. Madame Bravy | 40. Lord Macaulay |
| 29. Royal Standard | 41. Anguste Rigotard |
| 30. Sir Garnet Wolseley | 42. Reynolds Hole |
| 31. Baron de Bonstetten | 43. Princess Mary of Cambridge |
| 32. Madame Lacharme | 44. Dupuy-Jamain |
| 33. La Rosière | 45. John Stuart Mill |
| 34. Abel Grand | 46. Horace Vernet |
| 35. Edouard Morren | 47. Duchesse de Caylus |
| 36. Duke of Edinburgh | 48. Madame Victor Verdier |

Mr. WHITWELL, *Barton Hall, Darlington*.

- | | |
|-----------------------------|--------------------------------|
| 1. Marie Baumann | 7. Baronne de Rothschild |
| 2. Emilie Hausburg | 8. Camille Bernardin |
| 3. Marquise de Castellane | 9. Charles Lefebvre |
| 4. Marie Rady | 10. Star of Waltham |
| 5. Alfred Colomb | 11. La France |
| 6. Maréchal Niel | 12. Madame Victor Verdier |
| 13. Sénateur Vaise | 19. Thomas Mills |
| 14. Louis Van Houtte | 20. Monsieur E. Y. Teas |
| 15. Madame Charles Wood | 21. Dupuy-Jamain |
| 16. Duc de Rohan | 22. Duse of Edinburgh |
| 17. Belle Lyonnaise | 23. Sir Garnet Wolseley |
| 18. Hippolyte Jamain | 24. Prince Camille de Rohan |
| 25. Annie Wood | 37. Bouquet d'Or |
| 26. Madame Hippolyte Jamain | 38. Maréchal Vaillant |
| 27. Docteur du Chalus | 39. Madame Lacharme |
| 28. Catherine Mermet | 40. Capitaine Christy |
| 29. Madame Bravy | 41. Princess Mary of Cambridge |
| 30. Souvenir d'Elise Vardon | 42. Xavier Olibo |
| 31. Miss Hassard | 43. La Rosière |
| 32. Marguerite Brassac | 44. François Michelin |
| 33. Duke of Comnagac | 45. Etienne Levé |
| 34. Ferdinand de Lesseps | 46. Dr. Andry |
| 35. Duchesse de Caylus | 47. Madame Fillion |
| 36. Abel Grand | 48. Marie Finger |

Mr. BURNABY-ATKINS, *Halstead Place, Sevenoaks, Kent*.

- | | |
|-----------------------------|----------------------------|
| 1. La France | 7. Mdlle. Eugénie Verdier |
| 2. Marie Baumann | 8. Duke of Edinburgh |
| 3. Etienne Levé | 9. Baronne de Rothschild |
| 4. Charles Lefebvre | 10. Dupuy-Jamain |
| 5. Maréchal Niel | 11. François Michelin |
| 6. Alfred Colomb | 12. Niphotos |
| 13. Capitaine Christy | 19. Marquise de Castellane |
| 14. Dr. Andry | 20. Xavier Olibo |
| 15. Comtesse d'Oxford | 21. Mdlle. Marie Cointet |
| 16. Duc de Rohan | 22. Camille Bernardin |
| 17. Marguerite de St. Amand | 23. Victor Verdier |
| 18. Louis Van Houtte | 24. Madame Lacharme |
| 25. Reynolds Hole | 27. Horace Vernet |
| 26. Marie Finger | 28. Centifolia Rosea |

29. Maurice Bernardin
30. Monsieur Noman
31. Annie Wood
32. Princess Mary of Cambridge
33. Exposition de Brie
34. Madame Thérèse Levé
35. Sénateur Vaise
36. Souvenir d'Elise
37. La Ville de St. Denis
38. Maréchal Vaillant

39. Edward Morren
40. Mdlle. Marie Rady
41. Madame Margottin
42. Olivier Delhomme
43. Madame Clemence Joigneaux
44. Prince Camille de Rohan
45. Monsieur Woolfield
46. John Hopper
47. Monsieur Boncenne
48. Abel Grand

Mr. J. TRANTER, *Upper Assenden, Henley-on-Thames*.

- | | |
|-------------------------------|-----------------------------|
| 1. Maréchal Niel | 7. Louis Van Houtte |
| 2. Marie Baumann | 8. Madame Furtado |
| 3. Alfred Colomb | 9. Souvenir d'un Ami |
| 4. La France | 10. Sénateur Vaise |
| 5. Charles Lefebvre | 11. Etienne Levé |
| 6. Baronne de Rothschild | 12. François Michelin |
| 13. Camille Bernardin | 19. Madame Lacharme |
| 14. Catherine Mermet | 20. Comtesse d'Oxford |
| 15. Duchesse de Vallombrosa | 21. Jean Liabaud |
| 16. Emilie Hausburg | 22. Belle Lyonnaise |
| 17. Dupuy-Jamain | 23. Madame Victor Verdier |
| 18. Horace Vernet | 24. Marie Rady |
| 25. Paul Verdier | 37. Star of Waltham |
| 26. Marquise de Castellane | 38. Royal Standard |
| 27. Reynolds Hole | 39. Pierre Notting |
| 28. Alba Rosea | 40. Mdlle. Eugénie Verdier |
| 29. Felix Genero | 41. Prince Camille de Rohan |
| 30. Edward Morren | 42. Madame Caroline Kuster |
| 31. Ferdinand de Lesseps | 43. Xavier Olibo |
| 32. Madame Clemence Joigneaux | 44. Baron de Bonstetten |
| 33. Monsieur E. Y. Teas | 45. Perle des Jardins |
| 34. Princess Beatrice | 46. Triomphe de Rennes |
| 35. Mdlle. Thérèse Levé | 47. Victor Verdier |
| 36. Marie Van Houtte | 48. Henri Ledechaux |

Mr. HARRINGTON (J. Mitchell, Esq.), *Gerpens, Cookestay, Essex*.

- | | |
|--------------------------------|-----------------------------|
| 1. Baronne de Rothschild | 7. Camille Bernardin |
| 2. Duke of Edinburgh | 8. Fisher Holmes |
| 3. Marie Baumann | 9. Gloire de Dijon |
| 4. La France | 10. Ferdinand de Lesseps |
| 5. Dr. Andry | 11. Maréchal Niel |
| 6. Sénateur Vaise | 12. Mdlle. E. Verdier |
| 13. Prince Camille de Rohan | 19. Jean Ducher |
| 14. Charles Lefebvre | 20. Madame Margottin |
| 15. Duc de Wellington | 21. Xavier Olibo |
| 16. Devonienais | 22. Niphotos |
| 17. Belle Lyonnaise | 23. Alfred Colomb |
| 18. Catherine Mermet | 24. Victor Verdier |
| 25. Lord Macaulay | 37. Anna de Diesbach |
| 26. Thomas Mills | 38. Louis Van Houtte |
| 27. Duchesse d' Caylus | 39. Monsieur Noman |
| 28. Abel Grand | 40. Monsieur Etienne Levé |
| 29. Maréchal Vaillant | 41. Monsieur E. Y. Teas |
| 30. Exposition de Brie | 42. Marguerite de St. Amand |
| 31. Monsieur François Michelin | 43. Marquise de Castellane |
| 32. Mdlle. Marie Finger | 44. François Fontaine |
| 33. Monsieur Boncenne | 45. John Hopper |
| 34. Elie Morel | 46. Madame Victor Verdier |
| 35. Anguste Rigotard | 47. Gloire de Vitry |
| 36. Horace Vernet | 48. Olivier Delhomme |

Mr. PEMBERTON, *The Round House, Havering-atte-Bower, near Romford*.

- | | |
|---------------------------|-------------------------|
| 1. Charles Lefebvre | 7. Marie Baumann |
| 2. Marquise de Castellane | 8. Reynolds Hole |
| 3. Baronne de Rothschild | 9. Ferdinand de Lesseps |
| 4. Duke of Edinburgh | 10. Alfred Colomb |
| 5. Dr. Andry | 11. Capitaine Christy |
| 6. Madame Lacharme | 12. Sénateur Vaise |
| 13. Maréchal Niel | 19. Lord Macaulay |
| 14. Horace Vernet | 20. Bessie Johnson |
| 15. Pierre Notting | 21. Niphotos |
| 16. Belle Lyonnaise | 22. Xavier Olibo |
| 17. Beauty of Waltham | 23. Gloire de Ducher |
| 18. François Michelin | 24. Mdlle. Thérèse Levé |
| 25. Madame Bravy | 37. Prince de Portia |
| 26. Mdlle. Annie Wood | 38. Edward Morren |
| 27. Mdlle. Marie Cointet | 39. François Fontaine |
| 28. John Hopper | 40. Victor Verdier |
| 29. Dupuy-Jamain | 41. Abel Grand |
| 30. Madame Victor Verdier | 42. Fisher Holmes |
| 31. Duc de Wellington | 43. Comtesse d'Oxford |
| 32. Monsieur Noman | 44. Catherine Mermet |
| 33. Mdlle. E. Verdier | 45. Louis XIV. |
| 34. Louis Van Houtte | 46. La France |
| 35. Marie Rady | 47. Maurice Bernardin |
| 36. Madame Charles Wood | 48. Marie Van Houtte |

Rev. E. L. FELLOWES, *Wimpole Rectory, Royston*.

- | | |
|-----------------------------|---------------------------|
| 1. François Michelin | 7. Marie Van Houtte |
| 2. Marie Baumann | 8. Louis Van Houtte |
| 3. La France | 9. Baronne de Rothschild |
| 4. Alfred Colomb | 10. Charles Lefebvre |
| 5. Monsieur E. Y. Teas | 11. Catherine Mermet |
| 6. Maréchal Niel | 12. Madame Victor Verdier |
| 13. Miss Hassard | 19. Etienne Levé |
| 14. Marquise de Castellane | 20. Madame Willermoz |
| 15. Xavier Olibo | 21. Reynolds Hole |
| 16. Niphotos | 22. Star of Waltham |
| 17. Mdlle. Eugénie Verdier | 23. Edward Morren |
| 18. Duchesse de Vallombrosa | 24. Hippolyte Jamain |

25. Comtesse de Serenyi
26. Emilie Hansburg
27. Sénateur Vaisse
28. Souvenir d'Elise
29. Princess Mary of Cambridge
30. Souvenir d'un Ami
31. Dupuy-Jamain
32. Marie Finger
33. Madame Caillat
34. Devienne Lamy
35. Dr. Andry
36. Adam

37. Souvenir de Baron de Semur
38. Horace Vernet
39. Marie Raby
40. Capitaine Christy
41. Perle des Jardins
42. Comtesse d'Oxford
43. Marguerite de St. Amand
44. Duke of Edinburgh
45. Elie Morel
46. Fisher Holmes
47. Victor Verdier
48. Maréchal Vaillant

Mr. RIMOUT, *Woodhatch, Reigate.*

1. Charles Lefebvre
2. Baronne de Rothschild
3. Marie Baumann
4. François Michelson
5. Etienne Levat
6. Mlle. Thérèse Levat

13. Abel Grand
14. Alfred Colomb
15. Mlle. Marie Finger
16. Eugénie Verdier
17. Comtesse d'Oxford
18. Beauty of Waltham

25. Horace Vernet
26. Le Havre
27. Duke of Edinburgh
28. Madame Lacharme
29. Louis Van Houtte
30. Ferdinand de Lessps
31. Pierre Notting
32. Madame C. Wood
33. Devoniensis
34. Duc de Rohan
35. Emilie Hansburg
36. Antoine Ducher

7. Marquise de Castellane
8. Maréchal Niel
9. La France
10. Camille Bernardin
11. Madame Victor Verdier
12. Edward Morren

19. Exposition de Brie
20. Catherine Mermet
21. Perfection de Lyon
22. John Hopper
23. Marie Raby
24. Annie Wood

37. Marie Cointet
38. Lord Macaulay
39. Devienne Lamy
40. Xavier Olibo
41. Capitaine Christy
42. Madame C. Crapet
43. Dr. Andry
44. Duc de Wellington
45. Sénateur Vaisse
46. Reynolds Hole
47. Prince Camille de Rohan
48. Madame C. Joigneaux

Mr. JOHN SARGANT, *Reigate.*

1. Charles Lefebvre
2. Marie Baumann
3. Baronne de Rothschild
4. Marquise de Castellane
5. Alfred Colomb
6. François Michelson

13. Horace Vernet
14. Lord Macaulay
15. Madame Victor Verdier
16. Mlle. Eugénie Verdier
17. Souvenir d'Elise
18. Exposition de Brie

25. Annie Laxton
26. Madame Hippolyte Jamain
27. Dupuy-Jamain
28. Monsieur Boncenne
29. Reynolds Hole
30. Fisher Holmes
31. Dr. Andry
32. Annie Wood
33. Monsieur Noman
34. Capitaine Christy
35. Emilie Hansburg
36. Mlle. Thérèse Levat

7. Maréchal Niel
8. Etienne Levat
9. La France
10. Louis Van Houtte
11. Marguerite de St. Amand
12. John Hopper

19. Duc de Wellington
20. Comtesse d'Oxford
21. Marie Raby
22. Xavier Olibo
23. Miss Hassard
24. Monsieur E. Y. Teas

37. Marie Van Houtte
38. Prince de Portia
39. Marquise de Gibot
40. Camille Bernardin
41. Comtesse de Serenyi
42. Edward Morren
43. Duchesse de Caylus
44. Hippolyte Jamain
45. Cheshunt Hybrid
46. Prince Camille de Rohan
47. Victor Verdier
48. Madame Lacharme

Mr. J. PARSONS, *Frome.*

1. Alfred Colomb
2. Marie Baumann
3. La France
4. Marquise de Castellane
5. François Michelson
6. Mlle. Eugénie Verdier

13. Louis Van Houtte
14. Etienne Levat
15. Madame de Rothschild
16. Comtesse d'Oxford
17. Anguste Rigotard
18. Catherine Mermet

25. Dr. Andry
26. Emilie Hansburg
27. Princess Mary of Cambridge
28. Marie Van Houtte
29. Sénateur Vaisse
30. Leopold I.
31. Cheshunt Hybrid
32. Souvenir d'un Ami
33. Capitaine Christy
34. Fisher Holmes
35. Edward Morren
36. Gloire de Dijon

7. Camille Bernardin
8. Devoniensis
9. Victor Verdier
10. Horace Vernet
11. Charles Lefebvre
12. Niphotos

19. Duke of Edinburgh
20. Beauty of Waltham
21. Mlle. Marie Raby
22. Reynolds Hole
23. Madame Victor Verdier
24. Thomas Mills

37. Centifolia Rosea
38. Pierre Notting
39. President Thiers
40. Gloire de Vitry
41. Hippolyte Jamain
42. Mlle. M. Dombrein
43. Prince Camille de Rohan
44. Baron de Bonstetten
45. Jean Liabaud
46. Triomphe de Rennes
47. Marquise de Mortemart
48. Elise Boëlle

(To be continued.)

GREEN VEGETATION ON WALLS.

WHITWASHED walls in vineries and other glass structures are very apt to become green from the constant syringing required to keep these houses cool and moist. For many years I could not overcome this difficulty. An old mason seeing the wall of a large vinery covered with green matter offered to cure it. He took a pint of common vitriol (sulphuric acid)

and mixed it in a pail of water, and with this brushed the wall. This was done with the idea of destroying the germs or seeds of this green mould. A few days after this the wall was whitewashed, the limewash combining with the sulphuric acid on the wall forming sulphate of lime. This operation took place five years and a half ago; the wall has not been discoloured nor whitewashed since.—OBSERVER.

CUCUMBERS.

HAVING resolved in my mind that our requirements could be met by two kinds—one for everyday use, a cut-and-come-again sort about 12 inches in length, short neck, symmetrical in shape, swelling quickly, good flavoured, free-bearing, and hardy constitution; the other having the good properties of the former but twice the length—I had fixed upon Munro's Duke of Edinburgh as the everyday kind, and Tender-and-True for beauty and good quality. Experience had shown them to be all that could be desired. Why give space to others which would take up room that might, as hardy fruits were likely to be scarce, be more profitably employed with Melons? Ruminating—seeing space not wanted for Cucumbers devoted to Melons—I was interrupted by receiving seed of a new Cucumber—viz., Montrose Seedling, from Colonel Taylor, Montrose, Weston Park, Bath, described as a cross between Sion House and Lord Kenyon's Freebearer, pedigree sufficient to convince it must be an everyday kind; and seeds of a new frame Cucumber were also received from Messrs. Suttons, Reading, simply marked "a new frame Cucumber." Why not pit these against the favourites; give them a chance, devote a frame to each? It only represented so many Melons less per light for every one set apart for Cucumbers, and why not crop the Melon plants more heavily? An extra fruit per plant would balance the loss. Who knew but what I might have winners in the untied? Of course, as Burns puts it—

"The best-laid schemes o' mice and men gang aft aglee,"

the space might be wasted, the Cucumbers would probably disappoint, as new things often do; and how well the Melons would be appreciated, particularly when the luscious Peach is wanting! Only by trial could a satisfactory conclusion be arrived at, and if the opportunity were let slip it might never recur.

Never have I let an opportunity pass of making an experiment when it would not interfere with the supply. Experiment is the key of information. More is to be gained by experiment than a theoretical knowledge of all the ologies. There is no denying the fact that experiments, if to be of use, must be conducted upon such a scale as to show a correct issue. A plant in comparison with a dozen stands no chance, for there is great diversity in subjects of the same kind. The experiment must be comparative—an equal number of plants under the same climatic and cultural conditions, with the same amount of space. Give a plant twice the space of another equally requiring that essential and there is no comparing the doings of the two, as justice is only done to one, which in a great measure accounts for the great doings of new subjects. Seed is scarce, and they are thinly cast upon the ground. The plants do wonderfully well, but when subjected to ordinary culture, that of the standard older kinds, their doings are not nearly so satisfactory as in the year of trial. They come out at first all right, but after a few years it is very uncertain what kind it will have degenerated into; of course it is all due to the difficulty in keeping the stock pure. They have been so often and long crossed that they degenerate or sport. I am fully acquainted with the great difficulty of procuring seeds of some kinds true to name, but that it is due to degeneracy is only an excuse for negligence in the selection of stock. I have this year Early Longpod Bean for Seville Longpod, a Pea about 2 feet high for G. F. Wilson, a short white spine Cucumber for Munro's Duke of Edinburgh, and I am to accept them as due to degeneration. Fortunately some seed of the true stocks pronounce very decidedly against such reasoning, and we must accept the fact, unpalatable as it may be, that there had been a substitution—a very different word from degeneration, and having a decidedly contrary meaning.

I will endeavour to describe Montrose Seedling Cucumber. Plant hardy, succeeding in a cold frame with a slight warmth at commencement from a bed of leaves and a little old litter to hold the leaves together; foliage moderate, the leaves not large, the bine not strong; fruit at almost every joint—five, six, or more joints consecutively, not a great number of fruit

at a joint, which is no advantage, as one takes the lead and the others are mostly crooked and otherwise ill-shapen from irregularity of swelling, this having the character of swelling quickly, regularly, and certainly. Fruit deep green, 12 to 15 inches in length, skin smooth or very few spines, very symmetrical in shape, very short neck, flower borne well at the nose, altogether a handsome fruit and good; core or seed space small, no seeds found in any fruit cut, the flesh well flavoured, free from bitterness or any unpleasant taste. Very prolific, my two plants in a two-light frame giving sixty fruits in a month, and though the plants have been fruiting four months none of the fruit have shown a disposition to "knob" at the end, which is not unusual with most kinds late in the season. Its Sion House type is very marked, bearing some resemblance to Munro's Duke of Edinburgh, having a hardy constitution. It will displace those I have hitherto grown for "everyday" use.

"New Frame" Cucumber is a rather strong grower, but not so strong as Marquis of Lorne; foliage rather large, good constitution, succeeding in a cold frame with a slight warmth from leaves held together in a bed by stale long litter. Fruit 20 to 24 inches in length, neck short—scarcely any—remarkably regular in thickness from neck to nose, the flower well carried, skin deep green covered with "blue" bloom, very beautiful in symmetry and bloom; spines white, sparingly but regularly disposed, render it very attractive. The fruit had little core, no seed found in any, and capital flavour. It swells freely, fruits freely, and certainly is the handsomest fruit I have seen. I only regret that I have not been able to secure any fruit at all like seedling as yet. If only it would "knob" I should feel satisfied, for I have no object in growing these things other than to possess myself of the best kinds. I have tried my hand at crossing Cucumbers, but I get nothing for my pains except disappointment.

I do not know whether it has been noticed before or not—viz., that new kinds have at first, for two or three seasons, better constitutions than they afterwards exhibit. Can it be due to the influence of foreign pollen—fresh blood giving increased vigour? In-and-in breeding is well known as a source of weakness if not barrenness in cattle, why not in plants?—G. ABBEY.

BEDDING GERANIUMS AT CHILWELL.

THE season of 1877 will long be remembered in the annals of flower gardening as a most unpropitious one. The perpetual downpour of rain accompanied with extreme cold has told considerably against the beauty of the flower garden. Where *Alternantheras* will succeed carpet bedding has been in the ascendancy this season, but in many places they have not moved since they were bedded-out in June, and since the middle of August they have "grown small by degrees and miserably less;" and the Geraniums and other half-hardy blooming plants have been no improvement on the *Alternantheras*, for in many places they have presented a woe-begone appearance. However, in some favoured spots they have behaved themselves differently, and especially at Chilwell. The Geraniums in this nursery are standing monuments to Mr. Pearson's memory. His genial converse is missed now, but three sons who manage the business under the leading spirit (Mrs. Pearson) promise to walk in their father's footsteps, and to Mr. Charles Pearson I am particularly indebted for much courtesy. The Geraniums on the 19th of September were bright and beautiful, those under glass were more gorgeous than ever, and those in the open flower garden were in very good condition.

In the top garden nearest Mr. Pearson's house a number of circular beds were filled with Geraniums of one sort for trial. The very best in the garden was Mrs. Gregory, with beautiful rose-coloured flowers, large truss, dark foliage, stout footstalks, and an abundant bloomer; it appeared as if there had not been a drop of rain on it for weeks. The next in order of merit was Mary Pearson, a similar shade of colour to Mrs. Gregory; a free bloomer, fine flowers, the shape of the truss all that could be desired. These were sent out in 1876. Of the crimsons, the Rev. A. Atkinson stood pre-eminent, in colour a glowing crimson, the trusses fine; an improvement on Bayard, Mrs. Mellows, and Brutus. David Thomson, sent out last year, is much of the same shade of colour as the Rev. A. Atkinson, has immense trusses, very stiff footstalks, and the flowers well up above the foliage. In the lilac pink section the well-known Mrs. Turner was most beautiful. We

had always thought that the trusses of Mrs. Turner were too large for bedding purposes, and especially during a season remarkable for its rainfall; but however, there she was as bright as ever, clad in all her blushing beauty. Mrs. Turner was the best pink Geranium on the trial beds. Lady Byron, a beautiful soft pink with a light centre, is without a rival as a pot plant, but is not suitable for outdoor bedding. Colonel Wright of the rosy-red section appeared to stand the weather well; the trusses were large and well-shaped, the flowers very perfect. Ernest is very much of the colour of the Colonel, and quite as good in all respects. Charles Schwind, fine dark glowing crimson, with good habit, is the darkest Geranium yet sent out. S. Plimseell, purple crimson, was too much run to foliage, but the trusses were very fine. John Gibbons, scarlet, was the best bedder on the lawn last year, but this year is not quite so good. Rev. S. Hey, rosy red, was very dwarf, and an effective bedding variety. Mrs. Jacoby was very good as regards the quantity of bloom, but the colour, a salmon rose, was nearly all washed out of it. Mr. Pearson told us how good she had been in favourable seasons. Mrs. Paget, soft rose, was moderately good, but the fine satiny texture of the flowers is too delicate for this stormy weather. Among the Golden Tricolors Mrs. H. Walters and Rose Wood were specially noteworthy; and in the Silver-edged section Rosamond Wright was distinguishable for the purity of her leaf-markings.

Turning into the long Geranium house it was—as is always the case between the 1st of April and Christmas Day—a perfect blaze of flowers. We need not enter into detail respecting the merits of these plants for decorative purposes, for they have been described in these pages over and over again. We will, however, just mention a few of those sent out this season. Mrs. Levers, pink, with white eye, large flowers, and truss compact and good. Colonel Seely, scarlet flower, with white eye; the flowers are perfect in shape, and would come up in every point to the requirements of the florist. Gertrude, salmon colour, the individual flowers are more than 2 inches across; this is a noble flower. Mrs. Pearson and Lizzie Brooks, each with salmon scarlet flowers, very large, exquisitely good. Charles Schwind, very dark crimson, a splendid pot plant. Rebecca, rosy crimson, the trusses 7 inches across. There were many others all worthy of note and deserving a place in any collection, but these named are among the best. We observed thousands of seedlings in various stages of growth, and among those to be sent out next spring are some fine doubles of various shades of colour, quite a new feature from this nursery.—VISITOR.

VINE RENOVATION AT WIMBLEDON HOUSE.

VINES have of late years been, perhaps, the weak point of Sir Henry Peek's beautiful and well-appointed garden. The soil of the district is light, and is not what is known as of a "wearing" nature: hence the Vines which flourished well for a time eventually lost their vigour. Since Mr. Ollerhead has had the charge of the garden the Vines have been a source of much trouble to him: to a gardener so thorough as he is they could not be otherwise than disappointing. It is only recently, however, that he has been able to direct his attention to their renovation by a renewal of the borders and raising of the roots. As others may be contemplating the renovation of their Vines, and as this is the right period for the work being done, the plan adopted at Wimbledon may be usefully mentioned.

The Vines are perhaps thirty years old. They are planted inside, the roots having access also to outside borders. They are planted and trained about 4 feet apart, and have been pruned on the spur system.

Preparatory to the renewal of the borders, and as an important element in the restoration of the Vines, Mr. Ollerhead last year trained up two young canes from each Vine, selecting those which issued from the rods as near to the ground as possible. These were trained between the chief rods.

Such old Vines have old fireless roots—roots which do not always in the readiest manner emit young feeding spongioles even when fresh soil is provided: they would emit fresh roots probably more quickly from the rods if laid in the soil than from the old black roots. By the plan adopted by Mr. Ollerhead the Vines have an opportunity of doing this—in fact are doing it, for the Vines in one house were operated on in August, and the roots from the stems laid down then are now permeating the border. A free lateral growth has resulted, and the Vines are established for supporting their next crop. Other houses will be done at once before the leaves fall.

The plan is briefly as follows: The soil of the old border is taken out inside the house and fresh soil put in. The roots are raised and placed nearer the surface. They are, I think, notched at intervals; a portion of the stems are also notched and laid in the border. The Vine belonging to No. 1 rafter is laid in the soil and trained up No. 2, while that belonging to No. 2 is conducted underground and is trained up No. 1. Thus every Vine has a fresh rafter, the layered stems—quite 4 feet of each Vine—crossing each other underground between the rafters. Of the Vines so managed in August young roots are plentiful from the layered stems, especially from the young canes which had been encouraged to grow; the old stems have not yet emitted roots.

This mode of renovating Vines is well worthy of mention at the present time. The preparation of young canes, the notching of the stems and laying a portion of them in the soil, cannot fail to increase the root-action of the Vines to a very considerable extent, and is the almost sure and speedy forerunner of good Grapes as at Wimbledon.

The border inside the house is not made of the full width of the house, but 3 or 4 feet furthest from the Vines contains simply fermenting manure. Such manure placed in ainery at the time of starting the Vines is of great assistance to the breaking of the eyes, it also promotes healthy growth afterwards, adds gentle heat to the border, and as the manure decays forms a rich larder of food for the support of the Vines when the crop is swelling and ripening. Mr. Ollerhead's plan, I believe, is to remove the manure at the winter pruning, and with it the roots which have penetrated it, placing fresh manure and encouraging fresh roots yearly. If I am wrong in my assumption Mr. Ollerhead must oblige by correcting me. It is a somewhat bold course of treatment—a wholesale annual root-pruning, but which will no doubt answer its purpose admirably—as well, indeed, with Vines as with fruit trees in pots to which the practice is commonly and successfully applied.—J. W.

THE ROYAL GARDENS, HAMPTON COURT.

No more convincing proof of the increasing popularity of Hampton Court can be needed than to witness the many thousands of visitors who frequent these gardens daily. The noble avenues of Lime trees verging on the banks of a pleasant stream afford delightful shade from the fierce rays of a mid-summer sun, and lend a charm to the numerous flower beds for which they form a background.

Entering the gardens from the Palace front I found the long ribbon borders planted with Hemp; tall Abutilons, Cannas, Tobacco, Castor Oil, Solanums, and other subtropical plants forming a background, and so well do they answer the purpose required of them that in many places they completely shut out the wall behind them. In the front of them were Geraniums, and marginal lines of Golden Chickweed and *Cerastium tomentosum*. These borders are about half a mile in length. The walls behind are draped with Clematises, Honeysuckles, &c., which add to the beauty of these grounds at other seasons of the year. The flower beds have been very beautiful this year, and a brief outline of a few of the most pleasing may be acceptable. A bed planted with Miss Kingsbury, a very clear white variegated Geranium, intermixed with Viola Blue Perfection, surrounded with a double row of Iresine Herbstii, and margined with *Cerastium tomentosum*, was very effective. A charming bed planted in the "carpet" style also merits notice. Cables were formed with *Alternanthera paronychioides* lined with *Echeveria retusa* and a narrow belt of Golden Feather, filled in with *Sedum glaucum*, *Alternanthera*, and *Mesembryanthemum cordifolium variegatum*; the corner segments were planted with *Alternanthera amena*, and the whole edged with *Echeveria retusa*. This was altogether a very attractive bed. Happy Thought Geranium was here doing well, and displayed its strange freak of vegetation to great advantage. It was edged with Coleuses and Golden Thyme, and the trio made a very good bed. Opposite the tennis court was perhaps the best arranged carpet bed in the gardens. It consisted principally of ovals, circles, and their segments, and was planted with *Kleinia repens*, *Alternantheras*, *Mesembryanthemums*, and margins of *Semprevivum californicum* and *Echeveria retusa*. Many other pleasing beds must be passed, but not two of the most showy. Their centres consisted of large blocks of *Pelargonium Bijou* and Viola Blue Perfection freely intermixed (Violas do well here); then a broad belt of Iresine Lindenii surrounded with the Golden Stellaria. Whether viewed from a distance or examined

closely the arrangement was equally striking. Among the best Geraniums employed here are Sir George Natchet, Lucius, St. George, Waltham Seedling, Mrs. Haliburton, Warrior, and Sybil. Robert Fish and Golden Harry Hiever are good for edgings. The gardens and grounds were in excellent order, reflecting great credit on the manager.—J. W. MOOREMAN.

FUMIGATING.

SCARCELY anything can be more important in the practice of plant cultivation than the timely destruction of noxious insects, or preferably their prevention. Soil, watering, structural conveniences are all rendered comparatively inert if insects are permitted to become established in the houses or on the plants. Those cultivators who have won honours at exhibitions and have established their fame as accomplished plant-growers for home decoration are those who have persistently waged a war of extermination against insect pests. Those writers, too, who convey instruction in plant culture find it necessary to reiterate the importance of insect prevention or destruction. There are various ways of subduing insects, but one of the most familiar and effectual is by fumigation. Clumsy makeshift contrivances are frequently adopted in the burning of tobacco or tobacco paper, and when such is the case the work is unpleasant, and is often deferred until much injury has been done to the plants. By way of making fumigating a pleasant occupation Mr. Tebb has produced a handy, simple, self-acting apparatus which has been figured in our advertising columns. This having proved acceptable a smaller fumigator for frames and individual plants has been produced by Mr. Tebb, which is shown in miniature in the accompanying figure. To retain the smoke the cloth simply requires to be tied round the stem of the tree. We have tried this little apparatus, and it answers admirably. It consumes the tobacco paper freely yet without flame, and when the draught (which can be regulated at will) is adjusted by the moveable slide no further attention is requisite during the process of fumigation. The fumigators are made of various sizes, and are cleanly, cheap, and durable.



Fig. 55.
Tebb's Fumigator.

GRAPES CRACKING.

IN your impression of October 4th W. Harris seems puzzled with the vexed question, "What causes Grapes cracking?" I have not come forward to clear-up this mystery, but I suggest a little matter which, if not overlooked in his practice, is at least not mentioned in his remarks—namely, the state of the atmosphere.

Our friend asks, "Why should one sort crack more than another?" Some Grapes have thin skins, others thick, and, of course, the former must be more apt to yield to surrounding circumstances than their more leathery-skinned neighbours.

After describing his two unsuccessful attempts at growing Madresfield Court Grape without cracking he says, "Certainly everything was done to lessen the flow of sap to the berries, &c." Was he equally careful to facilitate the flow of sap from the berries? Was he sure the atmosphere was not too moist?

I am quite of opinion, though others may think differently, that the amount of moisture in the atmosphere of a house has more to do with the cracking of Grapes than either the amount of water supplied to the roots or the amount of foliage developed on the Vine. I have under my charge a house in the centre of which there is a pit once used for Pines, but now filled with ashes for the purpose of standing Ferns on. In this house there is growing together Muscat of Alexandria, Mrs. Pince, Black Hamburg, and Foster's White Seedling. I found that the latter variety cracked very much, but instead of cutting the shoots half through to cure it I took every plant out of the house as soon as the Hamburgs began to colour, and have done the same thing every year since, and have now no cracked berries, not even in this remarkably dull, sunless season, and in a locality, too, where about 14 inches of rain has fallen from the beginning of June to the end of Septem-

ber, the borders being all outside. Most men who have had much to do with Vines are familiar with what takes place on the leaves of Vines when the atmosphere is overcharged with moisture and indifferently ventilated, and I do not see any reason why berries with thin skins should not crack if the house is not moderately dry and well ventilated.—R. INGLIS.

RED-BERRIED SHRUB—ROSE MILDEW.

I CANNOT remember all the sorrows of the "CITY CLERK" and his questions, but I will answer all I can remember. The best plant for red berries is the Box-leaved Cotoneaster (*C. buxifolia*). It has beautiful white flowers in summer, and red coral berries in the autumn. It is a trailing shrub, very hardy, and will climb up a wall with support.

As regards mildew on his Roses, as soon as the "CITY CLERK" perceives it he must cut off the twig and burn it, as one tree will soon affect more. He must then give the plants abundant water at the roots, and also syringe the whole tree to wash off the resting spores. Sulphur and soot are valueless. A thunderstorm is the best cure for mildew and aphides.

As regards aphides, he must in early spring search for them, squeeze them, and syringe copiously afterwards, and continually. They will not then appear till September, when he must again squeeze and syringe. He will then be free in the meanwhile. I am never troubled out of doors with either of these plagues. When "D. Deal," was here, June 28th, I do not think he could find either mildew or aphides among 2500 Roses. The September aphides are egg-layers, and the spring aphides are viviparous.—W. F. RADCLIFFE.

ROYAL ROSES.

"I WAITED for the train at Coventry," as Mr. Tennyson says—at least at Slough, and suddenly bethought me of the royal county's Royal Nurseries and the truly royal Roses which issue from thence. Anyone who has an hour to spare either at Eton or Slough can hardly do better than spend it at Mr. Turner's interesting establishment. The gardens are of themselves most attractive. Magnificent Holly hedges afford shelter; and near the entrance a delightful little miniature Poplar avenue was still affording shade to Camellias coming on, and fall pot Briar Roses were recruiting for another campaign. Those giant Roses in pots so familiar at the spring shows were standing out in long lines enjoying the fresh air before entering on their London season. The plants are really prodigious. In nothing, I incline to think, are the triumphs of gardening science more manifest than in those wonderful Rose bushes which are now produced under glass. But my inquiry as usual was for the bed of seedling Roses. Under the guidance of Mr. Gater, the intelligent and experienced foreman of the Rose department, I was speedily introduced to all that was interesting. There is a time for everything, and I hold nothing in its way more enjoyable than a Rose chat amongst the Roses with one who understands them and makes his superintendence a labour of love. As I believe many others enjoy this also I have taken the trouble from time to time to put on record such gossip.

I spoke of the Rose seedling bed, but in fact there are many beds, Mr. Turner besides his own having become possessed of the stock of Mr. Laxton, to whom we are indebted for several excellent Roses. Indeed Mr. Laxton has sought after new Roses more scientifically than, as far as I am aware, any other grower. In almost all cases vast masses of Roses are grown together, and the bees or the wind in some way or other do the hybridising. Mr. Laxton, I believe, always fertilised the flowers himself. I saw a long narrow bed pretty full of his new seedlings. It will be strange if we have not something good from thence in the course of time. Among the Slough seedlings I saw several of considerable promise, though they must be good indeed to gain a place in the catalogue. People are hardly aware of the very severe ordeal which, in our English gardens at least, every new Rose has to go through. Even after it has been accepted and extensively budded, if it fail in form or fulness, however inviting the colour, it has little chance of ever being presented for a certificate. I saw one here, a red Rose of very fine shape and colour, which was only to be allowed to come out as a garden Rose. When, therefore, a new Rose is put forth as of promise by one of the great growers we may confidently consider it will be an acquisition. One such is to be shown by the Royal Nurseries next year, and to be in commerce the year after. Its

name is Harrison Weir. It is of the Xavier Olibo colour, with Charles Lefebvre wood and robustness—certainly something of very great promise. I saw many Briar stocks of it, but only one imperfect bloom. Thence we passed on to seedlings already out, notably Mrs. Baker, who was in great force, and, as might be expected, abundance—a very lovely Rose, such as the very charming lady to whom it is dedicated may certainly view with acceptance and complacency.

There were still many excellent Roses in flower. Mr. Gater said they had three seasons—that of the cut-backs, of the Manettis, and then of the maidens. At present all three seem uniting to form a fourth. Mons. E. Y. Teas was there, his character rising every season. Duchesse de Vallombrosa, an improved Capitaine Christy; Jean Liabaud, an improved Mons. Boncenne; Madame Prosper Langier and Duc de Montpensier, both spoken of highly. Souvenir de Spa, which I admired at Hailsham last year but have not seen since, was here very fine; and last but not least charming Comtesse de Serenyt, with its smooth, ivory-like, round, light pink bloom and of perfect habit. There were the usual acres of budded Briars most sturdily robust, and having at this time their cotton wrapping taken off from them. Thus I concluded a busy but most interesting hour.—A. C.

FLOWER GARDENING IN 1826.

It is fifty-one years since I began the gentle art of gardening, and I find from dire experience that there is more of what may be called glory than backsheesh connected with it. I began in the gardens of Admiral Sir J. Hope at Carriden, Linlithgowshire, and there was a very good flower garden there of fully an acre very well laid out, partly in grass and the rest a Box-wood design and herbaceous plants. The only bedding-out plant was *Senecio elegans*; one bed of it used to be planted, and very pretty it was; it was kept over from cuttings every season. I took a deep interest in the hardy plants; there was always something coming into bloom. I had the honour of serving three Earls and one Baronet for twenty-six years as head gardener and forester, and I stuck to the old hardy plants; but many beautiful varieties are grown now that were not to be seen in my early days, thanks to the enterprise of such firms as Backhouse, Ware, Parker, &c.

It was about the year 1841 when *Verbena Tweediana* and *Tweediana grandiflora* were introduced, and then the bedding-out began in a small way, but increased by degrees, till in many instances it fairly swamped the old herbaceous plants. Yet when the mania for bedding-out became so colossal I often thought that there would be a re-action, and I have advocated this for many years, and will while I can wield the pen. I know full well from my own experience and that of many of the very best gardeners in Scotland that bedding-out on such a large scale is a bore, and though attended with a large outlay for glass structures, men, and plants, that it seldom gives the amount of pleasure they were led to expect. What with drought, too much rain, and a want of sun, there is always something that is not up to the mark. If only one sort of colour dies, or partially so, the harmony of the parterre has vanished, and instead of its affording pleasure either to the gentry or the gardener, it is the very reverse. But even when the weather is so nicely balanced that everything is in order, only think of the expense of propagating the thousands of bedding plants, watering, planting out, pegging down, and staking up so many plants. If it were all counted up and shown to a lady or gentleman, I almost think I hear them saying, "I had no idea that there was so much spent for that which has given me so little pleasure, and think it will be necessary to turn a new leaf and see if the backsheesh cannot be turned to better account."

But what is to be done? Are we to fall back upon the old-fashioned herbaceous borders, and discard all the beautiful flowers that adorn our flower gardens and which add to the enjoyment of one's abode during the summer? Certainly I will be the first to say No to such a proposition. I have no more idea of bedding-out being abolished entirely than that I would believe that Sir Robert Peel's free-trade measures would be repealed, or that slavery, that accursed thing, would be again the order of the day.

I am quite sure that the gentry had more pleasure in their flower gardens even during the time there were nothing but shrubs and hardy flowers of all sorts than with the bedding-out stuff. I always had much pleasure in looking at a collection of Roses, Pinks, Carnations, Dahlias, &c., and in seeing

beautiful shrubs; there is always something new to be seen amongst them. But can the same tale be told about Verbenas, Geraniums, Calceolarias, &c.? Not at all, when they begin to bloom about the end of June, so as to have any show; they are the same day after day till the rain and cold in September destroys them. To my way of thinking they become insipid, and I only wonder how gardeners of otherwise good taste should care about such heavy monotonous masses. It is rare where the hobby of bedding-out is carried on so largely that everything else receives the attention it requires. About three years ago I went all the way to Lamport Hall to see that celebrated miniature rockery erected by Sir Charles Isham, and it certainly took me by surprise, and all done by the worthy Baronet's own hands during a period of nearly thirty years, and it far surpasses anything I ever saw; and next to it is Hoole House near Chester, but they are quite different. I saw Chatsworth, also Eaton Hall and Alnwick Castle, when on my tour to merry England. The beauties of Chatsworth, as the house and its surroundings, surpassed anything I ever saw, but Lamport Hall and Hoole House took me far more by surprise than any of the places I visited. I was much surprised and pleased this season with a place near Falkirk, Mayfield, belonging to Provost Russell. The evergreen and deciduous trees and shrubs were worth looking at, and then they are in beauty every day in the year, and the heights and colours may be so arranged as to give an artistic appearance to the scene. This seems to me far better than to see beds of bare soil "decorating" the lawn for nearly eight months in the year. Fine shrubs and trees, some few of the best bedding plants, and some spring and autumn-flowering plants, should be employed in due proportions, and I believe more pleasure and far less expense would result than by indulging in the modern system of garden decoration.—J. ADDISON, *Ormiston, Edinburgh.*

THE INFLUENCE OF SCION UPON STOCK

AND *vice versa* IN THE CASE OF THE VINE.

For a considerable number of years we have experimented with a view to prove the influence which certain Vines, as stock, produced on others when grafted on them, as well as the influence which one variety as a graft exerted on others as stocks. So far the results in some cases have been instructive, while in others they have been both instructive and most interesting. In grafting Gros Guillaume on the Muscat and not allowing the stock to make any growth, not even to develop a single leaf, the result was bunches somewhat more compact than the general run of Gros Guillaume bunches, more regular and larger-sized berries, and a colour exceeding in density any other Grape except the best-finished examples of Black Alicante. This variety, grafted on the Muscat and allowed to develop itself in the proportion of one to two rods of the Muscat on which it is grafted, has been very much increased in fruitfulness, and bears freely on the short-spur system of pruning. The shape of the bunch has, however, been entirely changed; the large shoulders characteristic of Gros Guillaume when well grown being wanting, the bunches having assumed a long tapering shape. The colour of the berries has not been nearly so dense—in fact they have been more of a grizzly colour, some berries colouring to nearly black on one side and grizzly on the other. The flavour has been appreciably improved, and the wood of the Vine ripens very rapidly and perfectly. On the other hand, the effect of one strong limb of Gros Guillaume on the two limbs of the Muscat is to deteriorate them, as well as to influence the character of the foliage considerably. As compared with other Muscats on which no other Grape has been grafted the limbs are weak, there being a tendency to shank in the bunches, and the foliage goes off early in the season with streaks of straw colour, much the same as Gros Guillaume goes off streaked with claret and crimson. The two Muscat limbs are also much more subject to scorching from intense sunshine than are the Vines entirely Muscat. These effects are distinctly realised and are very conspicuous at the present moment, an entire Muscat being beautifully green in foliage, and the Vine next to it with two Muscat rods and one of Gros Guillaume, with the Muscat portion of the foliage going off into straw-coloured streaks, like the Gros Guillaume; the fact being that the latter is deteriorating the character of the Muscat, while the Muscat stock and limbs are exerting a most marked influence on the Gros Guillaume.

Gros Guillaume grafted on the Black Hamburg comes very fine in berry and colour for about three years, after which it

deteriorates, becoming less fruitful and much smaller in bunch and berry. On one Black Hamburg grafted with Gros Guillaume we have allowed a spur of the Black Hamburg to grow on each side of the stock, about 6 or 8 inches below the union of the stock and scion. This was allowed in order to see the effect of a large spread of Gros Guillaume foliage on the small amount of Black Hamburg stock growth. Last year, as it happened, there were two bunches on the Black Hamburg spurs, and there was no appreciable effect on the fruit, but the leaves assumed the shape of those of the Gros Guillaume, and went off in autumn with exactly the same crimson colouring of that variety, while no other Hamburg foliage in the same house did so. This season there is just one bunch on the Hamburg spurs (they having apparently become less fruitful); but that bunch, although hanging over the hot-water pipes, has just, like those of Gros Guillaume on the same Vine, begun to colour, while the Hamburg bunches round about it are black. The berries are also much less in size than the other Hamburgs. The foliage on the two portions of the stock are this year again much more cut and pointed, and will no doubt change, like those on the main limb of Gros Guillaume, into crimson as they ripen.

In the case of Muscat Hamburg it has been found that, grafted on Black Hamburg and the stock and scion allowed to develop in nearly equal proportions, the bunches set better, form more compactly, colour better, and are less subject to shank than when it is grafted on the same stock and no growth allowed on the stock; the result in the latter case being large-framed bunches, with more stoneless and shanked berries.

Duke of Buccleuch on a Muscat stock, with also a limb of Gros Guillaume, does not succeed well at all. The berries shank very much. In fact, the fellow scion robs and cripples it. On the Black Hamburg the Duke does well, with the stock allowed to develop itself in about equal proportions; but from an eight-years experience of this Grape we conclude that it does best on the Muscat stock, the Vines being allowed to grow in equal proportions. The Vines on which it was thus grown were, however, destroyed. This Vine does very well on its own roots when properly established.

The Grizzly Frontignan has done best on the Muscat stock, the latter being also allowed to make growth in about equal proportion.

Trebbiano grafted on Muscat, and grown in proportion of one rod to two of the Muscat, does better than on its own roots; but from its very robust habit it has proved injurious to the Muscat.

From our experience we conclude that any Grape grafted on a given stock derives very little, if any, benefit or harm from the stock after a very few years, if the stock is not also allowed to make growth.—(*The Gardener.*)

A USEFUL PEAR.

A PYRAMID tree of Beurré Goubault in my garden, about 12 feet high and 6 through, regularly bears year after year from 150 to 200 fruit, and I now send you a portion of a branch to show that in this unfavourable season it has maintained its fruitful character. Though not to be compared with the best autumn Pears, such as Beurré Superfin, Louise Bonne of Jersey, Comte de Lamy, Thompson's, and General Todtleben, it has a fine flavour and the great merit of ripening gradually over a period of two months without going at the core, my single tree affording a constant supply from the middle of October to the middle of December, though in some seasons it comes in a week or two earlier or later; but this has been my experience with nearly all kinds of Pears. It is necessary to note that it generally remains quite green when fully ripe.—ESSEX.

[The branch received fully sustains the free-bearing character of this Pear, for on a length of a little more than a foot are eight excellent specimens.—Eds.]

THE POTATO DISEASE.

MR. ADDISON says that no one shall make him believe that the disease did not exist previously to 1846. He is quite right, for I have seen the disease in Potatoes in 1836. I do not write to please Mr. Addison, nor do I wish to contradict any other writer, but what I have seen I believe in.

Another writer says that no one can tell the cause of the disease, and that the diseased Potatoes infest the land. My

reply to this is, I have grown Potatoes on the same land for seven years and had no disease. I have tried all sorts of manure, and I find that with a good dressing of quick or gas lime Potatoes can be grown in the same land for a number of years. As for diseased Potatoes having anything to do with the next planting is out of question. Dress your land well in December or January with quick or gas lime, and you will have no disease. If anyone should have a doubt let them try one pole of ground with 2 cwt. of lime, and I shall be most happy to hear the result.—W. G.

PRIMULA VILLOSA NIVEA.

SOME confusion appears to exist as to the correct name of the charming *Primula* now figured. It is popularly called *Primula nivalis*, and is referred to under this name by Mr.

of charming flowers. Mr. Douglas grows this *Primula* well, and finds it worthy of his best care. Its cultivation is gradually increasing, as one of the most distinct and pleasing of the attractive family to which it belongs.

THE CLOUDED YELLOW BUTTERFLY

(*COLIAS EDUSA*.)

It is curiously illustrative of popular caprice that while the Colorado beetle, which has not yet settled here, has been puffed into astonishing notoriety by newspapers and periodicals, many interesting facts which immediately concern British entomology receive no mention. I have seen hardly any references beyond scientific journals to the abundance in which *Colias Edusa* has appeared in 1877, there being the unprecedented circumstance of a numerous flight of these



Fig. 56.—*PRIMULA VILLOSA NIVEA*.

Donn; the Dahurian *P. nivalis* has, however, purple flowers. It is known also as *P. nivea* (the Snowy *Primula*), and the name is appropriate, for the flowers of no *Primula* are more pure and chaste. The author of the "Botanical Magazine" considers it a variety of *P. villosa* on account of its essential resemblance to that species—its villous wedge-shaped leaves, toothed at the upper ovate part only and quite entire below, and by the funnel-shaped form of its flowers. It is one of the most attractive of small-growing *Primulas*, and when grown in pots or pans, and flowered under glass, as it should be, few dwarf plants during early spring are more noticeable in the greenhouse. It requires much the same cultural treatment as the *Auricula*, and at this period of the year requires attention to prevent it from damping; indeed nearly all the dwarf *Primulas* demand a little extra care now by providing them with suitable winter quarters. A shelf in a light well-ventilated house or the wooden stage of a cold frame are suitable for this tribe of plants during the winter months. When they show signs of growth in the spring a top-dressing of fresh enriched soil and more copious supplies of water aid in producing good trusses

butterflies in the spring as well as an autumn brood. Indeed, in some places they almost outnumbered the common Whites. Formerly scarce and then seemingly partial to the coast, *C. Edusa* has gradually become commoner, but this season has brought it out in unusual force; and as it feeds in the larva state on Clover and Lucerne, it might furnish a topic for alarmist paragraphs. There is, however, a probability that our very variable winters will always keep the species in some check.—J. R. S. C.

NOTES FROM CORNISH GARDENS.

TREGOTHNAN, THE SEAT OF VISCOUNT FALMOUTH.—No. 2.

THE mansion, a massive pile, was figured last week. The walk (fig. 57) leads from the lawn and forms a singularly appropriate approach to the house, passing as it does among lofty trees, fringed with a fine growth of *Rhododendrons*, a magnificent old Silver Fir standing out prominently, meeting the eye agreeably without obstructing the view. At the end of this walk, close by the house, are many *Camellias* wonderfully

fine, 12 and 14 feet in height and of a proportionate diameter, every one of them in admirable condition—a dense mass of foliage from the turf upwards. Never again shall I care for Camellias in pots, one glance at these glorious specimens bringing conviction to the mind that the roots must ramble freely in the soil, untrammelled by pots or tubs, to produce such vigorous growth. Surely the capacity of the Camellia for decorative purposes is not half so well understood as it ought to be. It will not answer so well in the open air in every part of the country as it does here, but it ought to be planted out in every conservatory bed, and it is undoubtedly the shrub of shrubs for winter gardens and crystal palaces. A meed of gratitude is due from horticulturists to the noble owner of Tregothnan for planting this exotic shrub so extensively, and affording such conclusive proof of its value and hardiness.

The principal or terrace front of the house commands a fine view down a valley having dense masses of timber on the right-hand slopes, not of formal aspect, but sweeping gently forward in rounded outlines down to the turf-clad slopes of the park on the left. In the distance there is a glimpse of the waters of the Fal winding picturesquely in among the trees, and beyond rise other wooded banks, the densely clustering tree tops marking the undulations of the slopes almost as if they were turf, so soft and pleasing is the effect. One turns from this pleasant scene with regret, for, most unfortunately, the terrace is not in harmony with it. Its boundary, a wall, running right across the valley, forms a stiff and uncompromising object for which nothing can atone, nor is there anything upon the terrace itself that is at all calculated to do so. The remedy is obvious: The wall facing the bottom of the valley should be removed and a wide flight of broad granite



Fig. 57.—TREGOTHNAN—VIEW IN THE GROUNDS.

steps introduced, with elaborate balustrades and vases for flowers; low tazzas, also, should be put upon the parapet of the remaining portions of the wall from each side of the steps to the ends of the terrace. The terrace itself is now occupied with circles of Box embroidery and spar of various colours, which might be dispensed with advantageously. In the centre there should be some object worthy of the position, and in keeping with the stately mansion with which it is inseparably connected. A group of statuary would, of course, be in excellent taste, or, if statuary were objected to, a raised flower bed, ascending in two or three tiers of stone or terra cotta, having a broad fringe of the dwarf *Rhododendron ferrugineum* round the lower tier, with no turf, but a bold encircling sweep of gravel or white spar, with turf beyond towards the ends of the terrace, where geometrical designs for flowers with curved, not angular outlines, would tell well. The central stone tiers should not be perpendicular and stiff, but should present a curved, flowing, and really ornamental front, and be so well proportioned and symmetrical as to render it a striking central ornament, pleasant to behold even when not gay with flowers. The broad fringe of *Rhododendrons* would add to its dignity as well as impart the requisite repose.

In contrast to the imperfections of the terrace the carriage court is unobjectionable, being in excellent proportion, with an agreeable margin of turf springing in semicircles from the

angles of the walls, and with an ample central expanse of gravel, altogether forming an adjunct to the buildings of the highest importance, imparting to them an indescribable air of completeness and dignity.

If an unusually critical tone has been indulged in it is because its subject is worthy of it. The gardens at Tregothnan are so beautiful that one longs to impart completeness to them by getting rid of the one or two blemishes indicated; by seeing more attention given to a due provision of shelter from high winds for the numerous trees requiring such shelter, and which are so worthy of it; and to the thinning and pruning of trees and shrubs so much required. The collection of shrubs is a fine one, but there are hundreds of magnificent specimens overcrowding each other so much that if prompt measures be not adopted the whole of them will be spoilt and the groups and borders become mere thickets, devoid of that individuality which is so charming, and without which even a wood becomes meaningless and tame.

Let it not be thought that these hints are intended to convey any reproach to Mr. Allen, whom I have much pleasure in naming as a painstaking gardener and worthy man, whose keeping of the gardens in such good order with the limited means at his disposal is highly creditable, but rather as pointing to needful improvements coming more within the province of a landscape gardener; and I may usefully conclude these notes

by calling general attention to the fact, that when a garden is planted for an immediate as well as a future effect due attention must be given subsequently to the thinning and re-arrangement of shrubs, and to such alterations as the development of growth invariably proves to be necessary—a work of such importance as may fairly be claimed to require mature experience, sound judgment, and cultivated taste.—EDWARD LUCKHURST.

STRAWBERRIES.

I THINK the authorities I mentioned are right in saying that the success of Strawberries in this country depends more upon the nature of the soil than the climate, but nevertheless I believe climate has something to do with it. La Constante does not succeed in some places in the south of England because the fruit is stewed on the plant by a too powerful sun. Myatt's Prolific would never be a first-rate Strawberry grown on any soil, and Nicholson's May Queen does not succeed in some places because the spring frosts are too severe; and according to Mr. Marsden Carolina Superba would not succeed in a rich loam, but requires a soil where red sand abounds. These instances might be multiplied.

If Mr. Luckhurst's ideas on this subject are right, and I cannot say that I agree with him, they are impracticable. It was easier for Mahomet to go to the mountain than for him to get the mountain to come to him—i.e., you may select Strawberries that will be likely to thrive in your present soil more readily than you can change the whole nature of it. Supposing you have a light soil on gravel, to change the whole of it, it would be necessary to go at least 5 feet deep; and if you kept the top foot of soil and carted away the rest, and brought back clay to go at the bottom and loam to go at the top of that, and had a mile or two to cart the materials, it would be a very expensive affair, and the alteration of a stiff clay to a loam would be nearly as bad. The mere addition of 3 or 4 inches of clay would not convert a light soil into a loam.—AMATEUR, Cirencester.

INTERNATIONAL POTATO SHOW.

No one not having seen the great exhibitions of Potatoes which have been held in previous years at the Alexandra Palace, and recently at the Westminster Aquarium, can appreciate their magnitude, character, and the interest which has been manifested in them by cultivators and visitors. Thousands of dishes of selected tubers carefully washed have an imposing appearance. Such shows afford evidence that the Potato has fanciers as ardent as has the Rose or any other product of our gardens. They represent also the magnitude of the trade which is established in the "noble tuber"—trade, too, of a decidedly "international" character, which has increased immensely during recent years, and which is not likely to collapse if commercial enterprise can maintain it in its present high position. A glance at the schedule of the Aquarium Show tells convincingly of the importance that is attached to Potatoes as a "fancy" crop by those who are intimately identified with the production and distribution of "show" varieties; for prizes—some of them extremely liberal—were provided by several firms, who thus seek to encourage the extended culture of the prince of root crops, and to promote the diffusion of improved varieties. It may be urged, indeed often is urged, that we have too many varieties already. Regarded strictly from an utilitarian point of view that may be true, as it is true of Peas, Broccolis, and other vegetables; yet new varieties of all these vegetables have caused a vastly increased interest to be manifested in the kitchen garden, and have stimulated high culture to an extent that would not have been indulged in if a few old varieties only had been adhered to. The present season has been one of the worst on record for Potato cultivators, on account of the prevalence of disease consequent on protracted wet and dull weather; yet it is highly probable that those who have been the most successful in producing sound crops are the "fanciers" who have given special attention to the selection of sorts and the best modes of cultivation. They have thus derived both pleasure and profit—the object, and a laudable one, of the promoters of the displays such as those referred to.

After we had left the Show last week certificates were awarded to the following varieties:—To the Rev. Mr. Peake for Vicar of Laleham, a red Paterson's Victoria; to Mr. McKinlay for McKinlay's Pride, a fine variety of the Ashleaved type; to Mr. Farguhar for Ice Cream, a handsome white kidney; to Messrs. Bliss & Sons for Trophy, a red variety of Snowflake; to Mr. Charles Turner for Early Bird, a beautiful kidney of the Ashleaved type; and to Mr. R. Dean for Radstock Beauty, a round exhibition variety of handsome shape, and for Bedford Prolific, a fine kidney of the shape of Jackson's Kidney, but quite dis-

tinged. In Messrs. Daniell's great collection we noticed a round variety named Masterpiece, certainly one of the most handsome Potatoes in the Exhibition, and which would doubtless have received a certificate had it been brought to the notice of the Judges with that object.

A few of the more handsome dishes and varieties suitable for exhibition purposes were the following:—*Kidneys*—Albion, Edgcott Seedling, International, Waterloo, Salmon Kidney, Sutton's Magnum Bonum, Lapstone, Yorkshire Hero, Ashtop Flake, Perfection, and Fenn's Bountiful (red), Veitch's Royal Ashleaf, and Myatt's Prolific. *Rounds*—Rector of Woodstock, Model, Bresee's Prolific, Climax, Fenn's Onwards, Taylor's Seedling, Porter's Excelsior, Red Emperor, Bresee's Peerless, Coldstream, Early Goodrich, and Carter's Main Crop (red).

VIOLETS EVERY MONTH IN THE YEAR.

IN your Journal of October 26th, 1876, Mr. Beachey gives directions for the culture of Violets and how to have them for six or seven months in the year, but says that everyone is not so advantageously situated as he is, Devonshire being the land of Violets.

I have had Violet plants in my garden as long as I can remember, which bloomed a month or two in the year as other peoples' do, and I thought that quite enough; but now I have Violets not only every month but every week in the year, and that without frames, pits, or forcing of any kind. The secret lies in my growing a particular kind of Violet, the name of which I do not know nor have I been able to find anyone who could tell me, so I send you a bunch, and perhaps you may be able to enlighten me on the subject.

About four years ago a friend of mine gave me a few plants, which he said he had had from a gentleman who had raised them from seed, and who told him they would bloom for nine months in the year. I divided and planted them in good soil, and in 1875 had Violets every month with the exception of June; in 1876 I had some every month, and this year I have hitherto had them every week, and shall doubtless continue gathering them to the end of the year.

I divide the plants in spring, cut runners off in summer, and keep them at all times free from weeds, and have often had Violets measuring more than an inch across, with stalks 7 inches long.—G. E. M.

[A valuable variety, resembling The Czar in size, colour, and perfume.—Eds.]

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

YUCCA ORCHIOIDES var. MAJOR. Nat. ord., Liliaceæ. Linn., Hexandria Monogynia.—Native of Southern United States. Flowers white. Hardy.—(Bot. Mag., t. 6316.)

ODONTOGLOSSUM CIRRHOSUM. Nat. ord., Orchidaceæ. Linn., Gynandria Monandria.—"This beautiful plant was discovered in the Ecuadorian Andes in the valley of Mindo, at an elevation of 6000 feet, by the late Col. Hall, who sent dried specimens to Sir W. Hooker that were imperfectly described by Dr. Lindley, and it has since been gathered in the same locality by his fellow explorer of the Andes, Dr. Jameson, and others. As a species its nearest allies are *O. Hallii* and *inter-purpureum*, both natives of the Andes, but it is abundantly distinct from these and all other species. Since its importation by the Messrs. Klaboch *O. cirrhosum* has flowered with many collectors, amongst the first of whom, I believe, is Sir Trevor Laurence, Bart., whose gardener, Mr. Spyers, informed Dr. Reichenbach that thirty flowers might be produced on a single panicle."—(Ibid., t. 6317.)

PITCAIRNIA FLAVESCENS. Nat. ord., Bromeliaceæ. Linn., Octandria Monogynia.—Native of Tropical America. Bloomed during April in the Kew Palm stove.—(Ibid., t. 6318.)

DENDROBIUM CRYSTALLINUM. Nat. ord., Orchidaceæ. Linn., Gynandria Monandria.—Flowers white, yellow, and pink. "It was discovered by Col. Benson, F.L.S., in Birma, and introduced by Messrs. Veitch, who first flowered it. The Royal Gardens are indebted to Messrs. Low for a fine specimen of it, which flowered freely, and the drawing was made from a plant in Mr. Ball's nursery in June, 1874."—(Ibid., t. 6319.)

ALLIUM UNIFOLIUM. Nat. ord., Liliaceæ. Linn., Hexandria Monogynia.—"This is one of several handsome new Alliums which have lately been discovered in California. It is found in the vicinity of Oakland, and about the bay of San Francisco. It was first named and described by Dr. Kellogg in 1861. It was afterwards found that name was not an appropriate one, the number of leaves not being a constant character. Of well-

known old-world types it is most like *Allium roseum* in the flowers, but its underground structure is quite unique in this very large genus so far as known, the bulbs being developed some distance from one another, and connected by a thread-like rhizome, like that of *Lilium canadense*. It flowered with Messrs. Backhouse & Son at Holgate near York in July, 1873."—(*Ibid.*, t. 6320.)

VILLA GARDENING—SHAFTESBURY PARK.

NEXT in importance to the means presented by the parks of London as affording wholesome exercise and sweet fresh air to the closely packed thousands of the colossal City is the examples they have provided of effective garden decoration, and the stimulus they have given to the cultivation of flowers by the artisan and industrial classes. The London parks as at present managed are great educational establishments, teaching—and this teaching is extensively followed—lessons which make homes more pleasant and their inmates more happy.

The spare hours of the industrial classes—the brain and muscle-working population—represent a great, an unrepresentably great power for good or evil. The time spent in those thousands—even millions—of resting hours cannot but exert a momentous influence on the lives and habits of the numerically greatest class in the community. The difference between those hours being spent worthily and unworthily is immense, incalculable. Too often time is wasted, and worse than wasted, not because what may be termed the abuse of life is indulged in from choice, but because of a lack of means for the time being employed in a more wholesome and salutary manner.

Villa gardening, however small the scale may be on which it is carried out, is an exercise which is commendable because it is at once pleasurable and beneficial. A garden of only a few square yards in extent affords the means for investing spare time profitably, and for exercising such good taste as is not uncommonly enveloped by fustian and corduroy.

If there are any who labour under the delusion that a considerable extent of ground is necessary, and untainted country air is indispensable for a garden to be worthy of the name, let them visit the locality contiguous to any of the London parks, and mayhap a useful lesson may be learnt on "economy," which is a popular term just now—economy in the arrangement of tiny plots, and an utilisation of the simplicities of the floral kingdom which are capable of contributing so effectively to home adornments.

One of the many examples of successful villa gardening carried out on a very small scale by a very great number is afforded by one of the suburban districts, the name of which is not unfamiliar to the great newspaper-reading public—namely, Shaftesbury Park. No more laudable undertaking was perhaps ever organised than that for the erection of small, complete, well-ventilated, and artistic "homes for the working classes." More than a thousand of such homes are occupied on this estate, and every home has a garden. Perhaps many of the little front plots do not exceed 12 feet by 6, and some are narrower than that, and the walled back gardens may not exceed 15 feet by 20, although several are larger; yet nearly all afford scope for the exercise of considerable taste, for many a little "back" contains its summer-house or greenhouse, while not a few of the frontages are ornamented in a most creditable manner. These floral decorations testify how much the gardens are appreciated and how greatly the homes are enjoyed by the occupants. In order to foster a taste for such salutary pursuits as gardening affords, encouragement has been wisely given by the liberal distribution of prizes for such examples of window and garden decoration as were considered worthy of recognition. These awards when carefully made by competent adjudicators afford a great stimulus to further efforts being made in the good work which they are intended to promote; and although for the present the excellent system may be in abeyance, it is to be hoped that it will eventually be resumed.

In the awarding of prizes of the nature referred to it is important that the capacities of each plot should be considered; also, as far as possible, attention should be paid to the matter of the raising and preserving of plants. Purchasing plants is easy to some, and little labour is needed to make a fine display for an occasion; but the credit attaching to such is certainly not greater than to those who have individually propagated and preserved the flowers, although the effect produced may not be quite so imposing. Not less important is it

that the backs as well as the fronts should be considered. A grand outside show, if at the expense of cleanliness and neatness behind the scenes, ought not to be unduly estimated. Tidiness and good order are as important as *Calceolarias* and *Geraniums*.

As may be expected in such a large community of miniature amateur gardens various styles of decoration are adopted. Some prefer the mixed style, and fill their garden with any plants they can obtain; others are partial to sweet-scented flowers, and indulge in *Carnations*, *Stocks*, *Sweet Peas*, and *Mignonette*. Some, again, have a fancy for evergreen shrubs, of which the most satisfactory for small town enclosures are *Rhododendrons*, *Aucubas*, and *Euonymuses*. *Veronica Blue Gem* appears to be a hardy shrub in the sheltered gardens of Shaftesbury Park, for several fine bushes have passed through at least one winter uninjured, and are now extremely attractive by their glossy foliage and profuse spikes of bright blue flowers. This *Veronica* should be grown in all gardens where out flowers are cherished. It only requires planting out in spring, potting in autumn, and protecting in frames or green-houses in districts where the frost is too severe for it to continue in the open ground. A few aspire to *Conifers*, which, however, do not thrive well in town gardens, yet *Thujas*, *Thujaes*, *Junipers*, and even *Retinosporas* are growing fairly well. Some little gardens are nearly filled with such shrubs as those mentioned, and are further carpeted with *Ivy*. Others contain no shrubs, but only flowers. Some of the residents "go in" for spring decoration, and "come out" strong with bulbs, *Pansies*, and that easily-grown and cheerful annual *Virginian Stock*. Others prefer summer flowers, and produce an "effect" with *Geraniums*, *Calceolarias*, *Golden Feather*, and *Lobellias*. Others again prefer plants of more elegant growth, and plant *Fuchsias* freely, and attractive they are in rather shaded positions. A few of advanced decorative proclivities adopt carpet bedding, having taken lessons, no doubt, in the adjoining park at Battersea. *Golden Feather* is, of course, the staple plant, but *Alternantheras* have come from somewhere; also *Leucophytos*, *Echeverias*, and even the now popular *Mentha Pulegium gibraltaria* may be seen. Some "go in" for autumn flowers, and in a space of 12 feet by 6, or less, devote their energies to *Chrysanthemums*. Others again have a weakness, or perhaps strongness, for *Roses*, but few are strong enough to make them succeed. *Roses* are not town plants. The best of all for a town garden is perhaps *Gloire de Dijon*.

Wall plants and climbers are in great favour. The most free grower of all is the *Virginian Creeper*, which forms festoons, and is permitted in some instances almost to cover the windows and darken the rooms, such is the love of "greenery." The smaller and closer-growing *Ampelopsis Veitchii* is finding its way up many a cottage wall, clinging to brickwork and even to metal spouting with determined tenacity; but it is only on sunny aspects and in rather dry soil that it assumes its brilliant autumnal garb. Here on a sunny wall is a *Ceanothus*, there a *Vine* growing freely and bearing well. Even *Fig trees* are not unknown, while *Passifloras* are luxuriant and beautiful. *Tropæolums* and *Convolvulus* are, as may be expected, very popular, and are only exceeded in numbers by one twiner, the common yet bright and useful *Scarlet Runner*; and *Clematises*, such as *C. Jackmanii*, are steadily finding their way into cottage gardens, and even such varieties as *Rubella* and *Star of India* are flowering freely in this floral suburb.

Window-box and sill decoration is one of the features of the "estate." In several instances it is done "to rights," if not to wrongs; for it is even whispered that cases are not wanting where inside comforts, even necessities, are sacrificed for outside show. Let us hope these are the whisperings of envy, and emanate from those whose fronts are not so attractive as they might be. Some of the window boxes, home-made of course, are artistically wrought, and afford evidence of skill, patience, and good taste on the part of the "manufacturers." Hanging baskets, too, and brackets for plants have their share in the domestic adornments.

Some of the miniature gardens are "laid out" chastely, others elaborately, and a few amusingly. Minton tiles, shells, white plaster, and black clinkers are all utilised. Several of the arrangements command admiration, a few provoking a smile, such as the erection of a "castle"—a miniature stronghold, correctly finished even to the cannon and ammunition, the whole being almost sufficient to fill a costermonger's barrow, or as a real Londoner proud of his vernacular would say, "barrer;" but such a mode of decoration is commendable, for it tells of the love of home.

Thus is villa gardening spreading, thus are workmen's homes made bright and cheerful and cherished by the ever-welcome smiles of flowers. Healthy homes and garden plots are the real antidotes to the many allurements which when indulged in leave behind them bitterness and misery. The garden lovers in these suburban homes work as earnestly and are as proud of their achievements as are those greater gardeners who honour themselves and the craft to which they belong by their trophies of skill at the great exhibitions. Let the gardeners from everywhere have the honours and rewards they so well merit; let the affluent enjoy in fullest excellence the produce of their gardens; but let also the humble earnest efforts of the thousands of those with kindred tastes have that meed of recognition which all gardeners are so ready to give, for by no class than gardeners and garden lovers is the truth of the old motto more fully admitted that "a touch of nature makes the whole world kin."—J. WRIGHT, *Ashbury Road*.

TERRA COTTA STOVE.

In answer to "J. C. B.," I have used a medium-sized terra cotta stove for my greenhouse for two winters, and it has effectually kept the frost out, the thermometer having been 50° inside when it was 12° outside. My conservatory is about 30 feet long. The drawbacks to the stove are smoke and dust, and the stove pipes supplied soon wear out. I grow Fuchsias, Camellias, Palms and Hyacinths principally. I should prefer a boiler for heating, but it is inconvenient to fix it. In buying a stove he must be careful that the rim at the top holds the sand properly, and he should get two buckets. I find charcoal the best fuel, but it is very expensive.—NEWTOWN.

OUR BORDER FLOWERS—LIPWORTS.

Among the many interesting plants that have been introduced to our shores from the North American Continent we look on *Cedronella cana* as an acquisition. The Lipworts are all destitute of any deleterious quality, and most of them are fragrant and aromatic. The *Cedronella* is so gifted, and those who like a strong aromatic perfume should be in possession of this useful and beautiful Lipwort. It is of graceful habit, from 1½ to 2 feet high, often forming a miniature pyramid, having whitish grey foliage and spikes of red flowers. It blooms during the summer and autumn months, but it is seldom seen in cultivation.

It is usually called a hardy herbaceous plant, but it is scarcely that in some districts. It must either be lifted in the autumn and protected through the winter, or cuttings may be struck in the autumn and kept in a cold dry pit plunged in ashes. They require care, being impatient of damp. They succeed well with the same treatment that is afforded *Pentstemons*. It may be increased by seed as well. If sown in heat in spring and carefully tended the seedlings may be had in bloom the same season. They are useful as pot plants for many purposes.

There are other kinds, as *Cedronella cordata*, *C. pallida*, and *C. mexicana*, but there is much sameness about them. The first and last named are most commonly met with: all require the same treatment.—VERITAS.

NOTES AND GLEANINGS.

THE visit to Carlisle of Mr. Cutler, the energetic Secretary of the GARDENERS' ROYAL BENEVOLENT INSTITUTION, was rewarded by contributions which will justify seven or eight additional pensions being granted next January.

—THE following new members were elected at the last meeting of the HORTICULTURAL CLUB:—Dr. Newington, Ticehurst; Messrs. E. G. Smeaton, Walham Green; T. Serle Jerrold, Avenue Road, Shepherd's Bush; and J. C. Fowler, Cumberland Lodge, Lewisham.

—WE are informed that Mr. HEAD, gardener to the late J. P. Gassiot, Esq., Clapham Common, has been appointed to succeed Mr. Legg as gardener to S. Ralli, Esq., at Cleveland House, Clapham Park. The public have, by the kindness of Mr. and Mrs. Ralli, derived both pleasure and instruction from this garden, which, all must hope, will be none the less enjoyable to its owners in the future than it has been in the past. Mr. Ralli's specimen plants which have been grown and successfully exhibited by the present gardener will, we believe, shortly be sold.

—A CORRESPONDENT writes complainingly that having

travelled some distance for the purpose of seeing the Potato Show at the Westminster Aquarium, he was not permitted to enter the Show at all, although he paid for admission into the building. He arrived at 3.30 and found visitors excluded from the Show, and barriers erected, which were not removed at 5 p.m., when he was compelled to leave the building to catch his train for returning home. We have heard other complaints of the same nature. With what object was the Show closed during the time specified?

—WE are informed that the only Potatoes used at the International Potato Dinner were SUTTON'S MAGNUM BONUM.

—As an attractive summer and autumn flowering ever-green plant for covering south walls *CEANOETHUS AZUREUS* has long been esteemed. Being a Mexican plant it is not sufficiently hardy for the northern districts of England, but in the south it succeeds well with no other protection than that afforded by the wall on which it is trained. One of the finest varieties of this plant that we have seen is *Gloire de Versailles*. The flowers are much finer and richer in colour than those of the species. For covering a south wall in a warm sunny position this *Ceanothus* merits especial notice. It is now flowering freely on the low south wall of the conservatory in the gardens at Wimbledon House, and its flowers are not only attractive when growing on the plant, but are very suitable for room decoration.

—GHENT AZALEAS, writes a Yorkshire gardener, are not only very effective when flowering in contrast with *Rhododendrons*, but their foliage afterwards contrasts remarkably well with the somewhat monotonous aspect of those shrubs. The fine glaucous blue tint of *Azalea pontica* is very conspicuous amongst the deep shining green of *Rhododendrons* during the summer months. Much may be done by foliage, but very much more by flowers. As thriving in the open spaces of *Rhododendron* beds may be instanced *Lilium*, which do not detract from the beauty of the foliage of the *Rhododendrons* in winter, nor interfere with their gorgeous display of bloom in early summer. Those having an eye for natural beauty may plant *Tropaeolum speciosum*, which, climbing over *Rhododendron* foliage, gives a blaze of scarlet in late summer. Will our correspondent tell us when and how to plant this *Tropaeolum* to insure its satisfactory growth?

—MESSRS. WEBB & SONS, nurserymen, Wordsley, Stourbridge, have sent us a schedule of prizes value nearly £300, including thirty silver cups, to be awarded at their ANNUAL ROOT SHOW on the 20th of November next, for specimen roots, Potatoes, root crops, cereals, &c. Entries for root crops (division 4) close on Tuesday, October 23rd, whilst those for specimen roots and cereals (divisions 1, 2, and 3) close on November 13th, and the latest day for receiving roots and cereals intended for competition is Thursday, November 15th.

—A BED of *PHALANOPSIS LUDEMANNIANA* nearly 60 feet in length by 4 feet in breadth, and numbering some two hundred fine flowering plants, may be seen, says the *Irish Farmers' Gazette*, at Lakelands, near Cork, the residence of W. Crawford, Esq., long noted for its fine collection of Orchids and other rare plants. About 4 feet in width of the wall of the East Indian house has been regularly lined off, wired, and padded with peat and sphagnum. In this perpendicular bed, 60 feet long, there are four parallel lines of *Phalanopsis*, large flowering plants, fifty plants in each line, and all in the rudest health.

—As the POTATO has a spreading root, and the tubers are nearly all developed upon the under surface of the fibres which run almost horizontally, it is considered by French Potato growers very injudicious to earth-up the plants, as this of necessity renders the roots more perpendicular.

—THERE are paints, washes, and heterogeneous steeps recommended for PRESERVING POSTS, but each are comparatively costly, and only partially successful. One great objection to the application of solutions externally rests on the fact that the sap being confined accelerates decomposition in the interior. Most foresters must have observed this. What I would recommend with fencing posts is, the materials, when felled, to be directly sawn into posts and stored under sheds thoroughly ventilated, where they will remain at least a year exposed to sun and wind. The neck, or part between wind and water, of each post should be slowly charred over a strong fire—slowly, because our principle means heating the timber thoroughly to the heart, so as to extract any moisture which may be still lodged at the centre, and hardening a crust on the surface of the posts. Afterwards, to prevent the posts absorb-

ing water, they should be well coated with coal tar, having its acid destroyed with fresh quicklime. The tar should be thoroughly boiled to evaporate all watery matter, and applied boiling hot. A large tank holding the posts set on end, and filled with the scalding tar from a boiler, answers the purpose very well. Of course the upper half of the posts can be painted when placed *in situ*. I am fully convinced coal tar, properly applied to thoroughly seasoned timber, is far more effectual in preserving posts than creosoting, poisoning, kyanising, or all the paraphernalia of iron prongs, sheet-iron wrappers, &c. One great recommendation in favour of the above process is that it requires no skilled labour, and the cost is a mere trifle. —(D. SYM SCOTT in *The Journal of Forestry*.)

— THE AMERICAN SHIPMENTS OF APPLES to Great Britain last year were upwards of 385,000 barrels, besides considerable quantities sent to France, Germany, and even Russia. A transatlantic contemporary observes that the opening of these markets to American fruit is an event of great importance, and establishes the business of Apple-growing on as sure a basis as that of the Wheat, Corn, or Cotton planter. It will be fortunate if the Apple crop in America is this year a full one, for it is rarely that such a scarcity of this useful fruit has been seen in British orchards.

NOTES ON VILLA AND SUBURBAN GARDENING.

FLOWER GARDENS are now beginning to look somewhat desolate, trees are shedding their summer clothing, and frosts have rendered Dahlias, Heliotropes, and other tender bedding plants useless; while in the kitchen garden department supplies of both Dwarf Kidney and Scarlet Runner Beans, also Vegetable Marrows, have been suddenly stopped. We have had frosts unusually early this autumn, and accompanied in the neighbourhood of London with dense fogs but no rain. Letters which have reached us from distant parts of the country tell us that frosty nights have been general, while the days have been bright and sunny, and thereby very suitable for ripening the wood of fruit trees, so necessary to withstand the severity of a sharp winter, and so conducive to the prospects of next year's fruitfulness.

The great business of propagating bedding plants for next season's summer's supply should by this time be nearly completed. Calceolaria cuttings should be inserted now in prepared cold frames. Ordinary Cucumber frames will do admirably, incorporating with the soil some sharp sand, and making all tolerably firm. Take-off small healthy young shoots either with or without a heel of the old wood, and insert firmly from 2 to 3 inches apart, and give them a good watering. Keep them close for a time, and as the cuttings show signs of becoming rooted air should be given on all favourable occasions, even to removing the lights entirely during warm days. In these unheated structures Calceolarias can be safely wintered if the protection of mats or other coverings are provided in severe weather. Pentstemons can be struck exactly in the same manner. These are beautiful border flowers. They produced a pleasing effect this year in Battersea Park, associated as they were with the free-flowering and attractive *Anemone japonica alba* (Honorine Jobert), dwarf Dahlias, &c.

BULBS.—Hyacinths first claim our attention. No flowering plants are more deservedly popular for room decoration, and none are more easy of culture. Hyacinths are said not to be so large as usual this year owing to unfavourable weather having prevailed in Holland during the growing period; but be this as it may, we desire the best possible results from those sent over, and whether grown in pots for the decoration of the conservatory, for the exhibition table, in glasses for decoration of rooms, or in beds and borders for the embellishment of the spring garden they must now receive immediate attention, and orders must be sent without delay to the respective dealers in bulbs for the supplies required. The subjoined list contains the best varieties that can be purchased, and includes cheap reliable older varieties which are still to be found in the winning collections at our metropolitan exhibitions.

Single Reds of all shades.—Duchess of Richmond, Emmeline, Gigantea, Madame Hodgson, Mrs. Beecher Stowe, Ornement de la Nature, Queen of Hyacinths, and Solferino. *Single White or Blue*.—Alba Maxima, Alba Superbissima, Baroness Van Tuyll, Grandeur à Merveille, Madame Van der Hoop, Mirandolina, Mont Blanc, and Queen of the Netherlands. *Single Blue*.—Argus, Baron Van Tuyll, Charles Dickens, Couronne de Celle, Grand Lilas, Leonidas, Marie, and Mimosa. The following are thirty exhibition varieties which have been separated from the above list on account of their high prices, and in some few cases the names in the foregoing list are repeated, thus showing that though cheap they cannot be dispensed with. *Single Reds* of all shades.—Cavaignac, *Fabiola, *Gigantea, Garibaldi, *Macaulay, Prince Albert Victor, Princess Clothilde, *Von Schiller, *Vuurbaak, and the indispensable semi-double red

*Koh-i-Noor. *Single Whites*.—*Alba Maxima, *Grandeur à Merveille, *La Grandeur, L'Innocence, Mirandolina, Miss Nightingale, *Mont Blanc, and Snowball. *Single Blues*.—Baron Van Tuyll, *Blondin, *General Havelock, *Grand Lilas, *King of the Blues, Lord Derby, Marie, Princess Mary of Cambridge, *Czar Peter, and *De Candolle. *Single Yellows*.—*Ida and *Bird of Paradise. The very best eighteen varieties for superior colour and massive spikes are those to which an asterisk is prefixed. The single varieties are mostly to be depended on for their easy culture and fine flower trusses, but if a few doubles are desired, Blocksberg, Laurens Koster, and Van Speyk are among the best of the blues; La Tour d'Auvergne, Prince of Waterloo, and Anna Maria of the whites; and Koh-i-Noor and Lord Wellington of the reds.

Cultivation in Pots.—Rich light soil is of the first importance. We prefer that which has had a large quantity of dried cow manure and coarse gritty sand mixed with it some time previous to being used. For exhibition purposes we pot the bulbs singly in 32's or 6-inch pots, but for home decoration 48's are often used. Some cultivators place three bulbs in a pot, but we prefer one. If the pots are new well soak them, for the white fleshy roots of the Hyacinth have a great dislike to new pottery. Fill the pot with the soil, make a hole with the forefingers, lay on a little silver sand, and place the top of the bulb on a level with the top of the soil; a rap on the potting bench will settle all firmly around the bulb. When potted they should be placed on a bed of coal ashes and be covered over to the depth of 5 or 6 inches with cocoa-nut fibre refuse; here they must remain until well rooted, which is generally from six to eight weeks from the time of potting.

Hyacinths in Water.—The single varieties are to be preferred for this purpose. Fill an ordinary Hyacinth glass with rain water, placing the bulbs on the top made for the purpose, almost but not quite in contact with the water; place them in a dark room for a few weeks until the roots have grown down the sides of the glasses, when they may be removed to the light; a window is a very good place, as the close contact with the light and air prevents them from becoming drawn. During severe frosty nights they should be removed a distance from the glass.

Early single Tulips are very showy and bear forcing well, and precisely the same sort of compost and the same size of pots and the same treatment recommended for Hyacinths will suit Tulips, only instead of one bulb, as in the case of Hyacinths, placing three around the sides of the pots. The following are among the best varieties:—Bride of Haarlem, Chrysolora, Couleur de Cardinal, Keizer's Kroon, White Pottebakker, Proserpine, Van der Neer, and Vermilion Brilliant.—J. W. MOORMAN.

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

KITCHEN GARDEN.

We have done but little work this last week in this department, but surely never has the weather been better for pushing forward out-of-doors operations. No rain to speak of has fallen for more than a month, and the ground is perfectly dry. Our northern friends will be surprised to hear that in this season of floods we have a border of Coleworts with the leaves flagging very much and of the usual bluish tinge that they take on in seasons of drought. We hope they will soon have a soaking of rain, as it is rather too much to expect us to water Cabbages in October.

No time should be lost in having all spare ground dug or trenched. It is sometimes better to trench it, especially if the soil is very poor, as the trenching affords an opportunity for working-in a good proportion of manure. Some persons fancy that it is waste to place manure deeply in the ground; if we had only a small quantity we would not care to bury it a foot below the surface, as this would not be using it to the best advantage. It would be much better that it was buried about 5 or 6 inches; but in trenching we have a layer at the bottom of the trench, then a spit of earth with the shovellings, and over this another layer of manure. We obtain excellent crops from our light soil by treating the ground in this way, the crops are more independent of the weather, and will pass through a season of drought that would seriously injure the crops if the ground had only been dug up. We have done much hoeing. In this district there ought not to be any excuse for the ground being overrun with weeds during the winter months. Should slugs attack the leaves of the young plants of Lettuce, Cauliflower, Cabbage, &c., the best way to destroy them is by dusting the leaves at night with dry lime. This was noticed last week, but the remedy is a very simple one, and if it is attended to in time the plants will not suffer. If the principal leaves become riddled with holes the plants receive much injury.

VINERIES.

Those who intend to start their Vines early, say in November or early in December, ought to lose no time in getting them prepared. Ours have been pruned some time ago, the wood

painted with sulphur dissolved in soapy water, the walls washed with strong lime water, and it is also well to paint the hot-water pipes. Surface-dressing the borders ought not to be omitted annually. Of course there is some difference of opinion as to the best method of doing this. We know of a good Grape-grower in Scotland who saves up a quantity of solid cow manure for this purpose, and when it is twelve months old it is ready for use. About 3 or 4 inches of the surface soil is removed, or even more, according to the nature of the roots, and about 2 inches in depth or rather more of the manure is then spread over the surface, and over this the same depth of turfy loam. The roots run freely into this dressing and the Vines are much invigorated; the Grapes are, we think, also of better flavour than they are produced when guano or other hot manures are used. Our own dressing is rather different from this. We mix cow manure and horse droppings from the stable in about equal proportions. There ought to be enough stable manure to cause the whole mass to heat; this dries the cow manure, and after it has been turned over frequently for three weeks or so it is ready for use. The manure and decayed turfy loam is then mixed together in equal proportions, and this forms a most excellent compost for surface-dressing Vines.

When the leaves are falling in the late vineries the Grapes have much tendency to become mouldy. Remove the leaves at once, and all berries that show the least tendency to decay. Open the ventilators on all favourable occasions, and close them before the night dews come on. Unless the weather is very cold and a sharp frost is expected it is better not to have any heat in the hot-water pipes. Our own experience with late-hanging Grapes is to keep out damp and not cause moisture to arise from heating the pipes at night. In our district thick fogs all day long must also be kept out. So far there has been no reason to complain, and the state of the Vines show that we may expect good crops of Grapes next year.

Orange and Fig trees in Pots.—To grow either of these fruits well it is desirable to have the plants near the glass; they must be regularly syringed, and considerable care must be taken as regards watering them. They suffer from too little water, and if the drainage is imperfect the soil becomes sour and the flavour of the fruit is deteriorated. Fig trees are now approaching the resting season, and water must be gradually withheld and the soil must just be prevented from becoming dusty dry until the period of starting them into growth again. We pot our Fig trees annually, and it may be done any time during the resting period. The plants make an immense quantity of tough fibrous roots and require generous diet. Good yellow moderately clayey loam, which is the best substance in which to grow all our choice fruits, is also the best for Figs, and as much water is required so that the drainage is well put in and some tough fibre placed over it to prevent the finer particles from mixing with the potsherds; about one-fifth part of decayed manure should be mixed with the loam, and an 8-inch potful of crushed bones to each barrowload. Firm potting is also an essential towards success. Many persons fancy that Figs can be grown at a great distance from the glass and under the shade of Vines. This is a great mistake. It is not possible to grow them so. The fruit produced is worthless, the leaves being very thin and a prey to red spider. Orange trees will not do well under the shade of Vines either, and it is best to do without them rather than to grow trees that will only be a discredit to those who have charge of them. Many amateurs fancy that if they have two or three glass houses they are going to have everything in the way of plants and fruit trees. We know one who built a greenhouse and was quite taken by surprise when told that it would not be possible to grow Vines, Melons, and Cucumbers in the same house. People must not only learn this, but they must also learn that a greenhouse cannot be kept gay with flowers from November to October without forcing pits and frames, from which a supply of plants may be obtained as others go out of flower.

This has also been a very good season for Strawberry plants in pots. The heavy dews at night and the leaves having been occasionally crusted with frost has stopped the growth of red spider. We still carefully attend to watering the plants, as also cutting off any runners as fast as they appear.

PLANT STOVE AND ORCHID HOUSES.

The work is much the same as we described a week or two ago, and we are still washing plants and having them thoroughly cleaned. Flowers are now rather scarce, and where plants are in flower it is best to take as much care of them as possible. *Allamanda Schottii* generally gives us plenty of flowers at this season, it is doing so now. We have also several of the *Ixoras* in good condition; *I. Williamsii* has some huge trusses of bloom on small plants; the pure white sort *I. Coleii* gives us plenty of trusses, but they are small, and the white is not very pure. This variety likes plenty of heat, and then it is a very desirable variety. *Gardenia florida* is also supplying us with its delightfully sweet flowers, which are never unwelcome; and the noble *Amazonian Lily* (*Eucharis amazonica*) has also been doing good service.

Amongst Orchids the *Dendrobium formosum*, autumn-flowering sort, is at present very beautiful; its large pure white flowers, with a yellow blotch at the base of the lip, are a great boon at this season of the year. This variety ought to be distinguished with an addition to its name, as a confusion is caused from the want of this. Those who want *D. formosum* to flower in June and July would be grievously disappointed if they received the sort that flowers in September and October; but it would not be fair to blame the nurseryman if he had no definite instructions. The growths are also quite distinct. The summer-flowering sort has darker-coloured and more hairy growths than the late-flowering variety, but the flowers are not to be distinguished. *Miltonia candida* is very useful for flowering at this season. Although the flowers are not very striking they are freely produced, and are useful for cutting to fill vases or for bouquets. Where there are a dozen plants of *Phalenopsis* flowers may be produced all through the winter and spring months. We now have *P. amabilis* in flower, and also other species showing. The *P. grandiflora* has the largest flowers and is the best amongst them. We do not give these plants very much water at this season, but only sufficient to keep the sphagnum alive, and carefully prevent any water from falling on the leaves. The winter-flowering *Calanthes* have formed immense bulbs this season, and are now throwing up vigorous flower spikes. They are in very small pots for the size of the plants, but the longer we grow Orchids the more are we convinced that the most satisfactory results are produced by growing all the plants in small pots.

FLOWER GARDEN.

The frosty nights that we have had caused us to lift all the Pelargoniums that we required. We do not pot-up any of the green-leaved sorts, as for the small beds and comparatively narrow borders plants from autumn-struck cuttings are the best, and they grow quite large enough by the end of the season. We pot the tricolor varieties, using very small pots. A good-sized plant may be potted into a large sixty. Before potting, all the large and oldest leaves are removed, but it is better not to cut or pinch the shoots. The beauty of most of the beds is now quite over, and the plants are being removed and the ground prepared for spring plants. Roses have flowered very well this autumn, but the mildew has seriously checked their growth and deteriorated the quality of the flowers. On a south wall the single white *Macartney Rose* is a conspicuous object, and very attractive to visitors. With us it has produced a succession of flowers during the summer months, and the plant seems as if it would produce them a month longer.—J. DOUGLAS.

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

BOOKS (—).—"London's Encyclopedia of Gardening" explains the terms genus, &c., which you need.

TROPEOLUM (A. F. B.).—It is *Tropeolum tuberosum*.

CARBOLIC ACID (M. A. B.).—Those who report favourably of its use to destroy weeds on walks are reliable authorities. It need not be applied so close to the edgings as to affect either the lawn grass or border flowers.

GRAPES (Curiosity).—A Grape within a Grape, like an egg within an egg, is a phenomenon unexplained. The small berries are with seeds unfertilised.

SEEDS OF COLOURED PRIMROSES.—A Castleton subscriber asks where these seeds can be obtained.

REPORTING (J. M.).—Thanks for your commendation, but we cannot be our own trumpeters.

SEED (Addlestone).—We cannot name a plant of which we are only shown a seed.

POTTING ROSES (X. X.).—The Roses which were forced last year ought to have been potted a month ago, but they will do well if potted now. *Lapageria rosea* and *L. alba* do best planted out in a border of turfy peat. See that the border is well drained.

RAISING EPIPHYLUM FROM SEEDS (E. L. L.).—The seeds should be removed from the pulp and be carefully dried by exposure to the sun. Sow them in sandy loam, just covering them over with the finer particles. The seeds may be sown at any time in the year, early spring being, perhaps, the best time. The night temperature of the house ought not to be less than 55°.

HALF-SPAN VINERY (Inquisitive).—Your wall being 9 feet high the vinery may be of the same width, with a front wall 2 feet high, which will give 11 feet of rafter. The Vines should be 18 inches from the ends and 3 feet apart, so that for six Vines a length of only 18 feet will be requisite. Vines and Peaches answer very well in the same house, but they cannot be forced together. A border the width of the house will suffice for the Vines for a few years; it will therefore be well to plant the Vines inside the house,

making arches in the front wall for the roots to pass outwards when an extension becomes necessary.

PLANTING FRUIT TREES (Ploughboy).—An article on the subject will appear next week.

RAISING FUCHSIAS FROM SEED (A Young Gardener).—When the seed-pods are black and juicy the seed is ripe. Press them with finger and thumb, wash away the pulp, and spread the seed upon paper to dry. Sow in rich soil early in spring, placing the seed-pans in gentle heat, such as is found in a cucumber bed or propagating pit, pricking the seedlings into pots so soon as they are large enough to handle.

WINTER SHELTER FOR PLANTS (Thomas Watson).—*Sedum variegatum*, *Valloia purpurea*, and the *Daphne* might be kept plunged in ashes in a cold frame as you propose, but *Phoenix dactylifera* and *Dracena australis* require a greenhouse. *Ficus elastica* may be kept in tolerable condition in a greenhouse, where also may be placed *Oxalis rosea*. You are quite right about the name of the Palm.

PROPAGATION OF PHLOXES (Idem).—All the hardy perennial varieties are propagated by cuttings made early in spring and placed in heat, or later on throughout summer in cold frames or under hand-lights, and also by division of the stools. *Phlox Drummondii* is raised annually from seed sown in March or April.

PLANTING ROSES (Sambo).—If they are planted at this period of the year, and if the weather is dry, they require watering at the roots and syringing at the tops, also the soil covering with manure as a top-dressing. Decayed manure mixed with the soil would be beneficial. Your other questions will be answered next week.

PLANTING ROSE BEDS (Flora).—Roses which are grown for exhibition purposes or for the excellence of individual blooms should not have any other flowers mixed with them. If the Roses are grown for ordinary garden decoration, and fine blooms are not required, other low-growing flowers, especially bulbs in spring, and Stocks, Mignonette, &c., in summer, are permissible in the beds. Violets would not do any serious injury if not planted close to the stems of the Roses, and if an abundance of liquid manure was applied to the beds throughout the summer months.

WATSON'S LAWN SAND (C. M. Buckden).—Mr. A. D. Barbour, 3, Park Row, Leeds, is the principal agent.

STRONG GLASS FOR A CONSERVATORY ROOF (R. J. S.).—Ribbed glass answers perfectly for a conservatory roof, proving no hindrance to freedom of growth and flowering, but clear glass is preferable for the sides.

HEATING A CONSERVATORY (Idem).—Hot-water pipes are altogether preferable for a conservatory, no other method being so cleanly and none more efficient.

SOWING GRASS SEED UPON A LAWN (G. S.).—It is too late to sow grass seed, and you must wait till the end of next March; then stir the soil of the patches a foot deep, removing any of it in which may be found the spawn of fungi (a white thread-like substance), replacing it with fresh and tolerably rich soil, renovating the old soil with a little well-decayed manure and sowing the seed immediately. The condition of the entire lawn may be much improved by a liberal surface-dressing of soot thrown about during February or March in a showery time, so as to be washed downwards to the roots quickly.

ASPARAGUS CULTURE (Old Subscriber).—There are five conditions essential for obtaining an abundance of fine Asparagus. 1, Beds well drained. 2, Abundance of rich dung in the autumn. 3, Weekly sprinklings of salt and strong liquid manure during the whole period of growth. 4, Leaving off cutting by the middle of June. 5, Not cutting down the seed stems until they are quite yellow. *Making the Bed.*—This is best done at the end of March or early in April, this being the best time also for planting. If the ground is common loam and well drained, or having a subsoil of gravel or chalk, nothing more is needed than to trench the space intended for the bed, and to mix with the soil as much rich thoroughly decayed dung as can be worked in. The trenching should be done now. Two-year-old plants should be chosen when they have started into growth 2 or 3 inches; they should be forked out carefully, and their roots not allowed to get dry after being taken up. No heads should be cut the first year after planting, and very few the second.

SAWDUST AS MANURE (F. C. H.).—All vegetable matters are promotive of fertility when mixed with the soil. Sawdust decomposes slowly and becomes soluble in the moisture of the soil. It is especially useful in rendering the staple of a heavy soil more open.

WHITE SCALE ON CAMELLIAS (L. J.).—Sponge the plants thoroughly with soap and water.

NAMES OF PLANTS (J. G. Gardner).—1, *Begonia fuchsioides*; 2, *B. Ingramii*; 3, *Begonia Weltoniensis*; 6, *Pteris serrulata*; others not recognised.

POULTRY, BEE, AND PIGEON CHRONICLE.

AGRICULTURAL HALL POULTRY SHOW.

The entries were small in proportion to the prize money offered. The birds were ranged on three sides of the galleries, where in most places the light was good. The Judges were Messrs. Hewitt, Teebay, Nicholls, Smith, Martin, and Leno. The days of the Show were far too many, and we are afraid many birds will be the worse for their long incarceration.

The *Dorkings* came first on the list, and the two first birds in the catalogue were Mr. Burnell's cocks which won second and fourth prizes. The second was a good-framed square bird. The condition and size of the first pullet was capital, but the whitest-footed bird in the class was the third, and perhaps should consequently have been higher. The next class had some very good Silver-Greys, and an excellent pen of Whites which came in third, and neat Silvers fourth. The first *Spanish* were good and won easily. We placed them first long before the cards came round. *Minorcas* and *Andalusians* met in the next class and made eleven entries. First and second went to the first-named breed. The *Cochins* were on the whole extremely

praiseworthy. The winning Buff cockerel was a very pretty bird, its neck hackles are not out, but his colour is sound, and had he more leg-feathering would make himself a good name. The second, however, had far too much in this respect, and his heavy hocks and coarse leg-feathering made him look ungainly. The fourth was a pretty chicken, his wings a little poor in colour, or else he should certainly have had a higher place. In pullets the winner was large and shapely, but had not an attractive head; the second was very pretty in colour but very small. Mrs. Alsopp and Lady Gwydyr both sent good pullets. In Partridges the first chickens had the cup, and both were good. The second was also a good pen, the cockerel shapely and bright in colour. The pullet in the fourth pen was the Aylesbury winner, a pretty bird but small, and not equal to the lovely pullets of Mrs. Acton Tindal. In Whites we liked the Judge's choice for first and second; the pullet in the latter pen was perhaps the best, but the first cockerel was whiter, and both were really shapely pens of chickens. For third place we should have gone to pen 95 (Breeze), which contains both the Aquarium first-prize winners, but the cockerel wants more breadth and chest. In Blacks the first were easily winners, broad and in wonderful bloom, the cockerel very young but of much promise. The second were also good and bright. The third we did not like at all; they had long tails, and the pullet's comb was hideous. Mr. Darby showed good pullets, but we are told his pens came too late for competition.

In Dark *Brahmas* the first cockerel took the champion sweepstakes. He is a good-looking bird, well feathered, and broad. The second was showy and good, but had some brown in his wings. The shape of the third was capital, but he was too heavily feathered; his colour, however, was beautiful. The first pullet had also full enough hock-feathering, and was large and well marked. The pencilling of the second, too, was good, and so was the fourth. In Light cockerels we thought the winner won well; he is a good bird all round. The condition of the second was fair, but his comb was ugly, and the same applies almost to the third. In pullets we liked the winner. She is good in colour, well marked, and neatly feathered. The other winners were good and well chosen. We were sorry to see Mr. Breeze's best pullet in so bad a plight, and on inquiry learnt that the basket in which she was drying caught fire, and before it could be extinguished she was dreadfully scorched, and her face and comb presented a very woe-begone appearance.

In *Game* the cup went to a Black Red cockerel, a bird good for colour, but his wings were untidy, and we imagine the second ran him close. In Black Red hens the colour of the second was good, but her comb was poor. In Brown Red cocks the winner was a fair bird, the second, however, running him closely. In hens of this colour the winner was a pullet in good bloom. In Duckwings the winners were very stylish; the third cockerel, too, was good, and perhaps had he had a matured pullet would have stood higher. The first Pile cockerel was rich in colour, undubbed, and with much style; the second was also undubbed; the fourth were smart chickens and in hard feather.

In *Hamburghs* the cup went to Blacks; they were a lovely pen, in fine condition and very glossy. The rest of the winners were good, and we especially admired the first Silver-pencils, first and second Golden-pencilled, and the first Silver-spangled cockerel, as also second pullet. The Golden spangles, too, were of great merit, the hens and pullets especially; their moons were large and colour rich. In *French* the Houdans and Crêves were both splendid collections, and though the first Crêves were rather out of plumage their size and points were admirable. The second, too, were wonderfully large and good, as were Mr. Stephen's two pens. Of Houdans there were a score of entries, and the first chickens were very large and good in comb. Second and third were old birds with but little difference between them. The fourth were very large and excellent in shape.

The *Leghorns* in two classes made fifteen entries. The winners were well chosen, and the Judge, who was, we believe, Mr. Nicholls, seemed to know just what to select. The *Polands* had two classes and only made eleven pens, but the quality was all that could be desired. The cup went to Black chickens, a very beautiful pen. The cockerel in the second had lost his tail, but his crest was huge and very white. The third were old birds, the hen lovely but the cock in moult, and his pen was full of feathers. Fourth were chickens again, but the pullet here had an ugly division in her crest behind. In the Spangled Golds were second and fourth, while Silvers had the other two places and were well marked and good, the third being old birds which want more time. *Malays* made but five pens, and the Judge had no difficulty to place his four prize pens in the proper order. The Variety class was truly excellent, there being twenty pens of admirable quality; first went to La Flèche, second to Sultans, third to Cuckoo Cochins, and fourth to Japanese; Silkies, good Scotch Greys, Cuckoo Cochins, Plymouth Rocks, &c., coming in for other cards of notice.

In *Waterfowl* the cup Aylesburies were very large and white, and the first Rouens were large and good; but we cannot comment on the winners for there seemed to have been some little

uncertainty as to which were the winners on the first day of the Show. The Pekins were excellent, and we are glad to see them making progress; and we regret we cannot say the same for the East Indians, which seem very few in number and out of fashion, and they will continue so while the Judges insist on such small size, almost disregarding colour for it. Mandarins and Carolinas had no entries. In the Variety Waterfowl class good Spotted-bills were first. Geese came fourteen pens strong and were good indeed, the first going to the Ipswich winners we believe, a most excellent pen of Greys. But the Turkeys too made a splendid display. The first contained a grand hen remarkable for her rich colour and size; but the best cock was in the third-prize pen, a huge bird in fine condition. We quite grant the first hen won them the place fairly, but we liked the third better than the second. In neither pen, however, was the hen very large. The farmyard cross class produced a trio of pens, and again exemplifies the mistake of putting such a class in an exhibition of fancy poultry only. The first went to what were apparently Black Dorkings, the second to a cross between a White Dorking cock and Light Brahma hens, and the third were mongrels of some kind with some Asiatic blood somewhere about them.

The *Bantams* call for no particular remark, for by some stupid regulation the price of each pen was limited to 40s., and the consequence was the classes were but meagrely filled with inferior specimens save the Game birds of Mr. Entwistle, and if they sold for 40s. a pen someone had some bargains. Many pens were entered at other high prices, but these will of course not have the prize money, for it will be surely allotted to the next best in gradation. And we are shown by this how extremely careful all ought to be in reading the rules, for even such a frequent exhibitor as Mrs. Acton Tindal did not notice this limited price, as her beautiful Black Rosecombs were entered at £10. We doubt ourselves whether the Secretary should have catalogued entries above the restricted price.

POULTRY.—**DORKINGS.**—*Coloured.*—Cockerel—1, H. Lingwood. 2 and 4, T. C. Burnell. 3, Rev. H. R. Peel. Pullet—1, H. Lingwood. 2, Mrs. Radclyffe. 3, T. C. Burnell. 4, H. Lingwood. *Any other variety.*—Chickens—1 and 2, T. C. Burnell. 3, Mrs. M. Hayne. 4, Miss Pallas. *SPANISH.*—1, J. F. Siltoe. 2 and *chc.* J. Powell. 3, W. H. Lowe. *MINORAS AND ANDALUSIANS.*—1, J. Harwood. 2, J. B. W. Williams. 3, C. Naylor. 4, Miss M. Arnold. *COCHINS.*—*Buff.*—Cockerel—1, Lady Gwydyr. 2 and 4, Mrs. A. Tindal. 3, —Allsopp. Pullet—1, Mrs. A. Tindal. 2, Mrs. A. Christy. 3, J. H. Jones. 4, Mrs. W. Steven. *chc.* Mrs. H. Shutt (2). *PARTRIDGE.*—Chickens—1 and 2, E. J. Wood. 3, Stretch. 4, K. & R. R. Fowler. *WHITE.*—Chickens—1, Mrs. A. Tindal. 2, Rev. R. S. Woodgate. 3, J. K. & R. R. Fowler. 4, A. Todd. *BLACK.*—Chickens—1, Lady Gwydyr. 2, J. Turner. 3, E. Snell. 4, H. J. Storer. *BRAHMAS.*—*Dark.*—Cockerel—Cup, H. Lingwood. 2, J. Earle. 3, Mrs. A. Tindal. 4, H. J. Storer. Pullet—1, H. Lingwood. 2, F. Bennett. 3, R. P. Percival. 4, S. W. Thomas. *chc.* E. Pritchard. J. Turner. *Light.*—Cockerel—1, G. B. C. Breeze. 2, F. Haines. 3 and *chc.* J. Winfred. 4, C. Naylor. Pullet—1, Lady Gwydyr. 2, A. Ives. 3 and *chc.* B. C. Breeze. 4, F. Haines. *GAME.*—*Black Red.*—Cock—Cup, S. Matthew. 2, Duke of Sutherland. 3, J. G. Irgrove, Hon. and Rev. F. Dutton. Hen—1, H. E. Martin. 2, Hon. and Rev. F. Dutton. 3, W. J. Pope. 4, Duke of Sutherland. *Brown Red.*—Cock—1, S. Matthew. 2, H. E. Martin. 3, —Perrin. 4, Duke of Sutherland. Hen—1, J. Cock. 2, J. Booth. 3, H. E. Martin. 4, A. Cameron. *Duckwings.*—1, H. E. Martin. 2, S. Matthew. 3, T. P. Lyon. 4, A. & G. H. Staveley. *Any other variety.*—1, J. Colgrave. 2, Duke of Sutherland. 3, W. & R. Smith. 4, G. H. Fitzherbert. *HAMBURGERS.*—*Silver-pencilled.*—1, H. Beldon. 2, J. Rawnsley. 3, W. L. Bell. 4, H. Feast. *Silver-spangled.*—1, J. Fielding. 2, Fawcett and Anderton. 3, H. Pickles. 4, J. Rawnsley. *Gold-pencilled.*—1, W. L. Bell. 2, H. Pickles. 3, J. Rawnsley. 4, Duke of Sutherland. *Gold-spangled.*—1, Duke of Sutherland. 2, J. Rawnsley. 3, T. Dean. 4, H. Beldon. *Black.*—Cup, W. Bentley. 2, H. Feast. 3, H. Pickles. 4, Fawcett and Anderton. *FRENCH.*—*Crève-Cœur.*—Cup and 2, L. Ward. 3 and 4, H. Stephens. *Houdans.*—1, L. Ward. 2, R. A. Bossier. 3, W. G. W. 4, H. Stephens. *LEGHORN.*—*White.*—1, A. Kitchen. 2, J. K. and R. R. Fowler. 3 and 4, G. Mumford. *Brown.*—1, T. Reeves. 2, Bradbury Bros. 3, A. Kitchen. 4, F. H. May. *POLISH.*—*Spangled.*—1 and 2, P. Unsworth. 3, H. Beldon. 4, J. Rawnsley. *Any other variety.*—Cup and 4, P. Unsworth. 2, J. Rawnsley. 3, T. Norwood. *MALAYS.*—1, Rev. H. Fairlie. 2, Rev. N. J. Ridley. 3, T. Eaves. 4, R. Hawkins. *ANY OTHER VARIETY.*—1, H. Stephens. 2, Mrs. A. Christy. 3, J. H. Cuff. 4, Rev. R. S. Woodgate. *chc.* Rev. A. G. Brooke. *DUCKS.*—*Aylesbury.*—Cup, 3, and *chc.* J. K. & R. R. Fowler. 2 and 4, E. Snell. *ROUENS.*—1, P. Ogilvie. 2, W. Meanley. 3, T. Mills. 4, F. G. S. Rawson. *Pekin and Cayuga.*—1 and 2, J. K. and R. R. Fowler. 3, E. Printer. *chc.* W. H. Crewe. *Black East Indian.*—1 and 2, J. W. Kellaway. 3, P. Ogilvie. *Any other variety.*—1, J. Booth. 2, H. Yardley. 3, J. Walker. 4, J. Booth. *TURKEYS.*—1, Mrs. A. Mayhew. 2, Rev. Y. Ridley. 3, W. Wykes. 4, E. Kendrick. *jan.* GEESSE—1, J. Everett. 2, E. Snell. 3, T. Mills. 4, J. Birch, jun. *chc.* Hon. Mrs. Colvill. **SELLING CLASSES.**—*Dorking, Bracon, Cochins or French.*—Cock—1, Lady Gwydyr. 2, J. Buckmaster. 3, H. Beldon. 4, H. Stephens. 5, G. B. C. Breeze. *Hens.*—Medal, F. Ogilvie. 2, J. Buckmaster. 3, W. R. Park. 4, Lady Gwydyr. 5, H. Feast. *Any other variety, not Bantams.*—Cock—1, P. A. Beck. 2, —Perrin. 3, C. Sidgwick. 4, S. W. Thomas. 5, W. R. Bull. *Hens.*—1, Rev. H. C. Fellowes. 2, E. Burrell. 3, Hon. and Rev. F. Dutton. 4, J. C. Calcutt. 5, T. Mills. *Bantams.*—*Black Red.*—1, T. W. Anns. 2, W. F. Entwistle. 3, J. C. Fraser. 4, J. Long. *Black.*—1, Mrs. A. Tindal. 2, R. H. Ashton. 3, R. Henderson. 4, H. Beldon. *Duckwings.*—1, W. F. Entwistle. 2, W. Goodbody. *Brown and other Game.*—Cup and 2, W. F. Entwistle. 3, F. C. Davis. 4, J. Long. *Any other variety.*—1, W. Richardson. 2, J. Buckmaster. 3, C. Naylor. *Farmyard or Mixed Breed.*—1, E. Shaw. 2, G. B. C. Breeze. 3, Rev. N. J. Ridley.

CHAMPION SWEEPSTAKE.—1, H. Lingwood. 2, S. Matthew. 3, Mrs. A. Mayhew. 4, Mrs. A. Tindal.

OXFORD POULTRY SHOW.—As we promised last week to furnish the various classes which each Judge at the above Show would adjudicate upon, we now proceed to do so. Mr. Hewitt will take the Dorkings, Spanish, Cochins, Brahmas, and French, also the Black, Sebright, and Variety Bantam classes; the Black, Pekin, Call, Mandarin, Carolina, and Variety Waterfowl classes, with the Pheasants and Turkeys. Mr. Teabay will have the remaining poultry classes. In the Pigeons Mr. Allsopp will take the Carriers and Dragoons; Mr. Jones the Barbs, Antwerps,

Owls, Turbits, Jacks, and special Flying class; while Mr. Esquilant will judge the remaining Pigeon classes. The date of receiving entries has been extended, but all must be posted this day to be in time; and we hope that those who have not already entered will consequently not delay doing so any longer, or they will be too late.—W.

TONBRIDGE WELLS POULTRY SHOW.

THE entries at this Show in many classes were small, but the quality was better than we ever saw here. The Show was held in a large marquee in the fields below Broadwater Down, and Mr. Ware, the member of the Committee who peculiarly interests himself in this department, was most courteous and obliging.

In *Dorkings* a very good pen of Silver-Greys were first, and they also won the extra prize for the best pen in the Show. Mr. Boissier is to be congratulated on the exquisite condition these birds were shown in. Buff *Cochins* were moderate. The winners (Christy) were well shaped, but the pullet wants more time. The second cockerel (Stephens) was not very good in wings, but was neat in shape; and the cock in the first prize Whites (Boissier) was well shown and good, but the pullet with him quite unworthy of his company. The first Dark *Brahma* chickens (Lingwood) were well-grown birds in good order, and well first. Mr. Breeze's first Lights too were good, though the cockerel was fully too dark on his saddle for our taste. The first *Spanish* (Hunt) were excellent, as too were the *Créves* of Mr. Stephens which won first and second prizes. *Hamburghs* were good. The winners were Golden-pencilled (Sales), and a very good pen of Silver-spangles (Avenell) shown in faultless condition and good in markings won in the other *Hamburgh* class, Blacks being second. The *Game* were quite a meritorious lot, and were well judged. We seldom see better Piles at great shows than we did here. The Variety class was small, first going to old La Flèche (Stephens), rather untidy in appearance; second to the same owner's La Flèche chickens, and third to small and pretty Sultans (Mrs. Christy). In the Selling classes the Light Brahmas of Mr. Pitt which won both first prizes were excellently-grown birds. In *Bantams* Mr. Leno won first with moderate Laced. The Aylesburys of Dr. Snell and the Rouens of Mr. Ware and Mrs. Brassey were up to a high standard, and in the variety Waterfowl class very large but too yellow in colour. *Pekins*, the first were exhibited by Mr. Kitchin. *Turkeys* were capital; the winners (Warde) were very large and in good feather.

In *Pigeons* Mr. Chandler monopolised most of the prizes with good specimens of Carriers, Ponters, &c.

The Judges were Mr. M. Hedley, Mr. J. Nicholls, and Mr. Harrison Weir. The Show was well attended and the awards favourably received.

THE MANAGEMENT OF SMALL RABBITS.

SMALL Rabbits are the Angoras, Himalayas, Siberians, Silver-Greys, Silver-Creams, Polish, Dutch, and the common prick-eared varieties. Another subdivision into the hardy and delicate varieties will also be useful. The hardy class we consider are Himalayas, Silver-Greys, Dutch, and Siberians. The delicate are the Angoras, Silver-Creams, and Polish. The delicate do best with a little heat, while the hardy, with the exception of Silver-Greys, would not care for additional warmth.

Of course the hutches for the small breeds need not be so large as for those which are more than twice the size, and they need not be so high, although the larger and higher they are the better. For the smallest sorts, such as Dutch and Polish, 2 feet 6 inches by a foot by 10 inches will be large enough, although 3 feet and a foot should also be the limits for length and height respectively, and nothing less will do for such as Angoras or Silver-Grey. An extra inch or two in height and half a dozen in length is never thrown away; and if the hutch is properly made without any draught holes there is little fear of the increased size making the inmates cold, while the increased facilities for exercise cannot fail to be very beneficial, especially to the younger ones. The sleeping compartment should be made a little smaller, and also the hole of communication. The partition need not be fixed more than 10 inches or a foot from one end, as if larger it will not keep the inmates so warm. The wires should be closer together, and if not quite so strong it will not matter.

We have classed Himalayas, Silver-Greys, Dutch, and Siberians as hardy Rabbits. They are remarkably strong and free from disease, and do not require any heat. A little warmth will, however, tend to develop the Silver-Grey's shading satisfactorily. All can be kept out of doors, and will do with but little corn. A good supply of healthy green stuff twice a day, with one feed of dry stuff, will do all that is required, especially as they are not required to be kept very fat. They are all very prolific and good mothers. The young Himalayas are born pure white, the points darkening with age. When about a couple of

months old the points get a grey colour, and gradually get darker, until at about six months old they become a light brown. This darkens for another month or two, when they will be as dark as they ever will be. The most critical period is when they are about three weeks old, at which time they should be very carefully looked to, for they pass through a moult and disease in the same way as puppies pass through distemper. The young Silver-Grey are born quite black, and continue that colour for a few weeks, when by degrees a few light hairs make their appearance, and the shade gradually increases in intensity till the legitimate silver-grey is arrived at. The most annoying feature is the nose, which is often white. The head generally is darker than the rest of the body, and this is no defect, although generally speaking the more uniform the shade the better. Young Siberians are also born quite white, or rather pink, and continue whits for a couple of months or so, when the ears, nose, and feet begin gradually to look dirty and by degrees brown, till at about nine months they are at their best. They should be kept dry and clean, and the hair should occasionally be combed. The colour of the little Dutch, however, can be discovered almost immediately after birth, and after a week can be told to a nicety, an old hand being able even at that early period to give the approximate worth of each member of the family. They develop rapidly, and at three months the colour is as good as it ever will be: hence it is that very young Dutch often run off with prizes, while the young of other breeds seldom do so, owing to their points not having developed. The Dutch doe is the most prolific of all, and the best mother: hence she is often sold and used as a nurse doe, either to relieve a doe with a large litter or to take the place of a deceased mother. In either case, with a little judicious care, they do their work well and give general satisfaction.

The delicate varieties, in which division we have placed Angoras, Silver-Creams, and Polish, require more care and want some little warmth to develop them properly. Polish Rabbits are particularly delicate, and as they are not so prolific as the others, nor does their scarcity make them more prized, we hardly recommend their being kept, especially as it is only a person who has seen the two together that can distinguish between a specimen of the breed and a common Rabbit white with pink eyes. At present there is not much pure Silver-Cream bred, nearly all the specimens shown being the products of a cross. The young of the Angora are born pink and bare, but the wool comes very quickly, and they are soon covered with a thin layer of silk. They are very delicate, and seem affected by the cold more than any other breed, except, perhaps, the Lop, and if they are kept in outdoor or draughty hutches they are a very long time getting properly fledged. For the first two or three months they require a good deal of care. This breed at all times requires a little extra care to prevent its long woolly coat from becoming matted. A comb worked through the hair gently once a week is a good thing, taking care not to tug when there are knots, as the poor animal's skin is far from strong, and it will show plain signs of pain by wincing. A specially roomy and clean hutch and a careful selection of bedding are also necessary to insure perfection. If the wool becomes very badly matted the worst parts should be cut off, and the hutch kept a little warmer till it grows again. If you can catch them at a moult it would be as well to cut the hair off altogether, carefully combing the new hair as it makes its appearance. The best and prettiest Angoras are those with very long wool parted down the middle. In fact, great care should always be paid to the wool, which quickly degenerates into masses of filth if not attended to; in fact, the easier it mats the better the quality.

The three varieties last under notice all require some sort of heat, as also do Silver-Greys. The Angora does are best with a little warmth, but not too much. If there is not heat the wool will not be so fine as could be wished, and if there is too much the ears will grow long and flabby, falling something after the fashion of the Lop. Both of these are to be avoided. The Silver-Grey and Creams both want to be shielded from the cold wind, and a little warmth will assist the shading process. The Cream is certainly the more delicate of the two, and hence requires more care and attention, and also a little warmer temperature. As a rule, however, the foreign varieties of Rabbits do with but little artificial heat.—GETA.

CHICKEN-FEEDING.—There is one ingredient in chicken-feeding which deserves special notice, being of the greatest assistance to those whose space is limited. We allude to the bone-dust, or ground dry bones, which is often used by gardeners in potting plants. For the knowledge and use of this ingredient we had originally to thank Mr. John Stuart of Helensburg, well known in Scotland as a successful breeder, and to whose unvarying friendship in many other ways and instances we feel pleasure in acknowledging heavy obligations. After full and satisfactory trial ourselves, we had no hesitation in recommending the use of bone-dust to other breeders; and the extent to which other writers have followed us in various periodicals, and to which

the substance is now advertised in the poultry papers, besides the many private testimonies we have ourselves received, are conclusive evidence of the value of an article of diet which Mr. Stuart's kindness had enabled us to be the first to introduce generally to poultry breeders. Bone-dust for mixing in poultry food should be on an average about the fineness of coarse oatmeal. There are usually larger pieces interspersed, but these need not be taken out, as any too large will be rejected; though the meal may be sifted free from any larger than peas if desired. The price being never very much more per hundredweight than good meal, it should be used liberally with all the soft food, and about an ounce may be mixed with every half-pint of dry meal before adding the milk or water.—(*The Illustrated Book of Poultry.*)

THE BEE SEASON IN HERTS.

ON former occasions I have given your readers some account of my bees and their doings near Hitchin; and as we may now consider the season for 1877 closed, it is my purpose to tell a little of my year's experience and of the lessons I have been taught by it. Last season was one of unusual abundance of honey, this season has been a very different one, although I am happy to say that I am not obliged to mourn with those who have had no harvest at all. All my hives have done something. Some have given me no surplus of honey in supers, but these have one and all given me powerful swarms, which in five cases out of eleven not only filled their hives (all ten-framed wooden hives) with combs and sufficient store to carry them on to next March, but also filled sectional supers weighing from 10 lbs. to 35 lbs. each.

This result was brought about by two causes. Each hive into which a swarm was placed had its frames filled with clean old comb purchased from cottagers whose bees had died out during the winter and spring, or the bars were furnished with from 4 to 6 inches of midrib moulded and fixed according to Mr. Cheshire's method, and in the second place all the swarms were thus hived before the second week in June. No swarms were hived after this period, but were returned to their parent hives after the queen cells had been excised. From experience I knew that my honey harvest could only last for three or four weeks, and that it would commence early in June. As it turned out, the season was a late one, and the clover was not in flower till about the 12th of June. After cold wet weather a sudden change took place, for me in the nick of time, and a fortnight of lovely sunshine and hot weather arrived. Honey was abundantly secreted in the flowers, and my bees worked merrily up to the 24th, when a change came—a sudden unwelcome change. Copying from my diary, I find:—"June 25th. Wind N.E., much colder; bees get out to work much later than yesterday, and are all home soon after 5 p.m. Many forsake their supers during the cold night." This proceeding went on until I find under date June 28th—"Most of the clover cut." From that date very little honey was stored in supers. On some hives where the supers were nearly finished a few fine days during the lime blossoming completed them, but all my best supers were worked before the 25th of June. The greatest quantity taken off one hive, a stock which did not swarm, was 63 lbs.; two Lee's Crystal Palace supers, 45 lbs., and the rest in sections worked over the Lee's supers. Some time since Mr. Abbott inserted a letter of mine which bore testimony to the wonderful results brought about by the employment of midribs in supers made from a plaster cast of natural comb.

Mr. Hunter has told you of the midribs which are made by an American invention. I hope to be able to test some of them, and to note the results obtained from their use in comparison with those obtained from the plaster casts. Given the casts, I cannot see how the bars of frames can be supplied with guides in a neater and more expeditious manner by the machine-made sheets. But midribs whether made by one or the other method are essential to bee-keepers who wish for straight combs and quickly filled supers. A Lee's super, seven bars, which when sealed-up weighed 22½ lbs., was filled from end to end with comb worked on these midribs given the whole depth (4 inches) of the super, stored and sealed under sixteen days. Frames in stock hives supplied with the same depth of guide sheets are one and all built perfectly straight, and have given me this autumn no trouble whatever to lift out one by one, full frames being transferred from hives with bounteous stores to weaker brethren, and the lighter put in their places, all fitting nicely together, and affording me the greatest pleasure to manipulate them.

Next week I hope to tell you what advantages I have found by the use of perforated zinc between the stock and supers, and of some interesting and instructive accidents which happened through its employment; also my experience regarding Ligurian bees, which I have this year had for the first time, and to which I have tried to give particular attention, carefully noting any faults or excellencies in them as compared to our old friends the so-called black bees.

I think that my experience of the year has more than ever

impressed upon me the importance of gentle stimulative feeding in early spring, both with barleysugar or syrup and pea flour, in order to have a powerful army of workers, early swarms, and hives full of hatching brood before the honey season, which is so short in our cold climate, commences. The stocks of the cottagers near here who cannot be brought to attend to their bees, but who have kept bees, some of them for fifty years, swarmed (where they swarmed at all) in the very midst of the short period of ingathering, some "hanging out" for days, and wasting those precious hours only to be found this autumn not worth the trouble of "taking up." Yet for all that many went down into the sulphurous pit. An old man who has kept bees for nearly sixty years, who likes to walk round my garden and see the bees filling the supers, yet who cannot be brought to employ any new methods, has this year burnt all his bees unknown to me until too late to save them. He tells me that they had done nothing for him for some years now, and that he had given them up in disgust. The first week in July I heard him talking in an excited manner to a neighbour, and as I passed he called out to me to tell me that "The Lord had sent him a swarm of bees." None of his own had swarmed, but a powerful colony had settled on his chimney. The neighbour hived them, and left the skep on the roof. In the evening not a bee was in the skep, all were in the chimney, the queen, doubtless, not having been secured at the first. Here the bees remained until during my absence from home last month they were smoked out, a few pounds of honey obtained, and an immense quantity of valuable comb thrown into the "boiling pot," their more lowly sisters perishing the same evening. In contrast to this "wilful sinner" is a young man, an invalid, who has by my directions increased his one stock of the spring of 1876 to five powerful hives, one a bushel skep, into which he placed two powerful and one weak swarms, and from which after driving the bees he obtained over 40 lbs. of valuable honey. The bees were returned, and are being fed-up into a splendid colony. A super of 8 lbs. was obtained from another hive, and now the five are in good condition to pass through a long winter. The next step in the right direction will be the employment of bar-frame hives. My own stocks are now thirty-one in number, only five of which remain in 18 or 20-inch skeps, all the others have found their homes in bar-frame hives, and those of the five skeps will do the same as soon as I can make hives into which to transfer them.—P. H. PHILLIPS, *Offley Lodge, near Hitchin.*

BEE-KEEPING IN NORTHUMBERLAND.

I HAVE three large hives which made over 20 lbs. each on the moors in spite of the weather, whilst the small hives made only from 5 lbs. to 7 lbs. I can safely say that no other hives within ten miles have made more than 7 lbs., hundreds of hives have done nothing, and scores have died out. Such a season has not been experienced for many years. Though the season has been unfavourable I consider that I have been a gainer by increase and improvement of stock, for I have three large hives worth £6 6s.; three smaller, £4 10s.; one ditto, £1 5s.; one large hive with bees, given to me for driving them, £1 10s.; 14 lbs. of fine honey, £1 1s.—total, £14 12s.; deducting £3 10s. cost, and sugar £3 10s., there remains £7 12s. I am glad to say I have mastered the art of driving and uniting swarms. I have put no less than seven swarms into one large hive, and they are taking down three pints of syrup a-day, and seem to be doing well. The weather is now beautiful, and the bees are gathering quantities of pollen and taking water from a tub placed near them with a float on the water.

I shall be obliged if the following questions be answered in your next issue:—1, Why do the bees in certain hives refuse syrup offered, whilst others take nearly two quarts in twenty-four hours? 2, Is it not unusual for drones to be flying about on fine days at this late season? 3, Does the appearance of drones at this time indicate that the queen is not fertile or that the hive is queenless?—HARDY-ON-THE-HILLS.

[Your correspondent has made a good beginning in an unfavourable season, and from the tone of his letters I venture to predict that his future career in bee-keeping will be bright and successful. In answer to his first question it may be said that the bees of some hives do not discover or find out the sugar or syrup that is placed on their hives. There may be some distance between the bee nest and the syrup which is not often travelled. In such cases some enticement is necessary. A trail or track of honey, or a bit of comb soaked in syrup and laid between the nest and food, will soon set the bees of any hive at work. No bees refuse syrup properly made and administered. Cold weather may prevent the bees from leaving their warm nest, and drive them back to it after they have begun to take syrup. The late Mr. Woodbury was astonished to find the bees of some weak hives chilled to death with honey in their hives. Our mode of feeding is from the board below the bees, and if some swarm hives are not full of combs their bees do not always come down for the syrup. In warm weather they never fail to take the syrup, but in cold weather some enticement or contri-

vance is resorted to. Our correspondent's second question touches the appearance of drones late in the season. It is unusual for drones to be flying about at the end of September, and their appearance at that time generally speaking is an indication that something is wrong—either that the bees are queenless or have an unfertile queen. There is good reason to suspect every hive that has drones in it now; but the existence of drones in some hives may be traceable to special treatment, and five years ago our bees and those of many other apiarists throughout England did not kill their drones till November. The hives that year were full of honey, and why they did not destroy the drones at the usual time I cannot tell. The non-destruction of drones that year till near Christmas was exceptional and extraordinary, for our bees were blest and happy with the presence of healthy fertile queens.—A. PETTIGREW.]

OUR LETTER BOX.

SUPERFETATION.—We have several communications on this subject, but we do not consider it suitable to our Journal.

DRESSING RABBIT SKINS (P. C.).—Take the skin as fresh as possible, and having mixed a sufficient quantity of salt and water till it will bear an egg, saturate it with alum; put the skin into this blood-warm, and let it lie and soak twenty-four hours; then take it out, and having tacked it upon a board (the fur inwards), scrape the skin, and a thin membrane will come off; then, having warmed up the pickle again, put the skin into it a second time, and let it remain five hours more; after which take it out and nail it upon a board to dry (fur inwards), and then rub it with pumice-stone and whiting. Hare and other skins may be prepared in the same way. They are always in best condition for preparing in the winter.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.					
	Barom. at Sea- and Sea- Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		Rain.
		Dry.	Wet.			Max.	Min.	In sun.	On grass.	
1877.										
Oct.										
We. 3	30.005	deg. 45.6	deg. 45.6	N.	deg. 50.3	deg. 61.3	deg. 50.0	deg. 93.4	deg. 82.0	—
Th. 4	30.162	48.3	46.2	N.W.	49.9	62.1	57.1	94.0	83.0	—
Fri. 5	30.451	50.5	48.5	N.W.	49.9	61.7	40.2	103.3	86.0	—
Sat. 6	30.668	50.8	47.7	N.	49.7	63.4	39.6	101.2	83.6	—
Sun. 7	30.574	42.8	42.2	N.W.	49.3	56.8	36.4	71.3	31.5	0.0.8
Mo. 8	30.158	52.2	47.8	N.	50.2	57.4	48.5	105.3	43.5	—
Tu. 9	30.314	49.3	44.2	N.	49.7	57.9	40.4	103.6	36.3	—
Means	30.335	48.4	46.0		49.9	60.2	38.9	97.1	55.1	0.0.8

REMARKS.

3rd.—Fine morning, but rather hazy; very fine day and starlit night.
4th.—Grey morning and afternoon; fine forenoon, evening, and night.
5th.—Splendidly fine all day and night.
6th.—Rather hazy morning and early evening, otherwise a fine bright day; solar halo at 3 P.M.
7th.—Morning grey and hazy; fair all day, but not much sun.
8th.—Rain in early morning, but fair before 9 A.M., rain once or twice, but only in small quantities; fine evening.
9th.—Very fine morning, pleasant day, but rather deficient in sunshine; very slight shower in early afternoon.
Beautifully fine at times, and pleasant all through the week. Temperature slightly lower. Barometer very high.—G. J. SYMONS.

COVENT GARDEN MARKET.—OCTOBER 10.

We have very little alteration to quote. Business continues quiet. Large consignments of foreign goods are reaching us and are fetching lower prices. Hothouse Grapes are more than equal to the demand. Kent Cobs meet with a ready sale, prices tending upwards.

FRUIT.

		s.	d.	s.	d.			s.	d.	s.	d.
Apples.....	½ sieve	2	6	to 3	6	Oranges.....	£ 10	0	to 16	0	0
Figs.....	dozen	1	0	3	0	Peaches.....	doz.	3	0	24	0
Filberts.....	lb.	0	4	0	6	Pears, kitchen.....	dozen	1	0	3	0
Grapes.....	lb.	0	4	0	6	dessert.....	dozen	2	0	4	0
Cobs, hothouse.....	lb.	1	6	0	6	Pine Apples.....	lb.	5	0	8	0
Melons.....	each	1	6	4	0	Plums.....	½ sieve	10	0	13	0
Nectarines.....	doz.	4	0	18	0	Walnuts.....	bushel	5	0	8	0

VEGETABLES.

		s.	d.	s.	d.			s.	d.	s.	d.
Artichokes.....	dozen	3	0	to 6	0	Mushrooms....	pottle	1	8	to 2	0
Beans, Kidney....	bushel	2	0	4	0	Mustard & Cress	punnet	0	2	0	4
Beet, Red.....	dozen	1	6	0	8	Onions.....	bushel	0	2	0	0
Broccoli.....	bunch	0	9	1	6	pickling.....	quart	0	4	0	0
Brussels Sprouts	½ sieve	4	0	0	0	Parsley.... doz.	bunches	2	0	0	0
Cabbage.....	dozen	1	0	2	0	Parsnips.....	dozen	0	0	0	0
Carrots.....	bunch	0	4	0	8	Peas.....	quart	0	6	1	0
Capsicums.....	£ 100	1	6	2	0	Potatoes.....	bushel	3	6	5	0
Cauliflowers.....	dozen	2	0	4	0	Kidney.....	bushel	5	0	7	0
Celery.....	bundle	1	6	2	0	Radishes..... doz.	bunches	1	0	1	6
Coleworts doz.	bunches	2	0	4	0	Rhubarb.....	bundle	0	8	1	0
Cucumbers.....	each	0	3	0	9	Scafaray.....	bundle	0	9	1	0
Endive.....	dozen	1	0	2	0	Scorzonera.....	bundle	1	0	0	0
Fennel.....	bunch	0	3	0	0	Seakale.....	basket	0	0	0	0
Garlic.....	lb.	0	6	0	0	Shallots.....	lb.	0	8	0	8
Herbs.....	bunch	0	2	0	0	Spinach.....	bushel	2	6	4	0
Lettuce.....	dozen	1	0	2	0	Turnips.....	bunch	0	3	0	6
Leeks.....	bunch	0	4	0	0	Veg. Marrows..	each	0	2	0	4

WEEKLY CALENDAR.

Day of Month.	Day of Week.	OCTOBER 18—24, 1877.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.		Clock before Sun.		Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.			
18	Th	ST. LUKE EVANGELIST.	60.4	40.7	50.6	6 31	4 59	3 39	2 5	12	14	51	291					
19	F	Sale of Orchids at Stevens's Rooms.	59.4	41.7	50.5	6 33	4 57	3 49	3 15	13	15	1	292					
20	S		59.0	39.2	49.1	6 35	4 55	4 0	4 26	14	15	12	293					
21	SUN	21 SUNDAY AFTER TRINITY.	58.4	39.5	49.0	6 37	4 53	4 18	5 38	15	15	21	294					
22	M	Sale of Bulbs at Stevens's Rooms.	58.9	42.4	50.6	6 38	4 51	4 28	6 53		15	30	295					
23	Tu	Robert Fish died, 1873.	58.2	39.8	40.9	6 40	4 49	4 46	8 11	17	15	39	296					
24	W	Long Vacation ends.	56.3	39.6	47.9	6 42	4 47	5 13	9 31	18	15	46	297					

From observations taken near London during forty-three years, the average day temperature of the week is 52.1°; and its night temperature 40.4°.

THE ROSE SEASON OF 1877—A RETROSPECT.

AS "WYLD SAVAGE" (who, by-the-by, is described in the "Journal des Roses" as "Mons. Wyld Savage") and others have written their opinions of the Rose season, I may perhaps as well add mine, especially as I have done so in previous years. My facilities for giving that opinion are about the same as usual. I have acted as judge in various parts of the kingdom, have visited many well-known Rose gardens, and have consequently seen Roses in the most varied aspects from their earliest blooming in pots to the last exhibition at which they were prominently brought forward—the Crystal Palace Show of September 21st, an unusually late date. I shall therefore record my views in just noticing a few points that the season has especially fixed on my mind.

1. "Has it been a good Rose year?" is a question that has been very frequently asked of me and others. My own opinion is that it has not been so, and I do not see how it could well be otherwise. The unusually mild winter which stimulated an exceedingly early growth and led in many cases to early pruning, the sharp early spring frosts which destroyed the young growth, the cold easterly winds that so long prevailed, the excessive wet in some places, all combined to frustrate the hopes of the rosarian; while the lateness of the season threw many out of their calculations in the matter of exhibiting. Doubtless grand, yea, magnificent blooms of Roses have been exhibited, but I do not call to mind any that have left a very marked impression on my mind; and I think it tells something for the zeal and skill with which Rose-culture is carried out in this country that, despite all these drawbacks, such Roses should have been generally exhibited as to have at all made the question a debatable one as to whether it was a good Rose or not.

2. It has been demonstrated, I think, that late pruning may be carried to excess. I will take my own Roses as an example. I had five beds of newly-planted dwarfs on the Manetti sent to me by Messrs. Cranston & Co. of Hereford, and Mr. Dickson of Newtonards, Co. Down, Ireland. They were admirable plants, vigorous and healthy, but the unusually mild winter stimulated them into early growth; not only leaves but buds made their appearance on the terminal shoots before I could prune them, and I at first thought when I did so that the lateness of the operation would in no way affect them. In this, however, I was greatly mistaken. I suppose that, being newly planted, they had too much to do below-ground to enable them to push out actively, and the consequence was that many of the shoots died back, others sent out short weakly growths of about 6 inches and have made no progress since; so that these beds, having also since then been attacked by orange fungus in a mild form, present rather a miserable appearance. I conclude that their being newly planted had something to do with it, because in those beds which have not been disturbed, although they were pruned at the same time,

the growth had not been hindered. In a visit I paid to my friend Mr. Baker's garden at Exeter I found the same thing—a fact which accounted, I think, for his failure in the cup class at the National, for on this piece of ground he had depended for success. They had been pruned late—as July 4th in ordinary seasons was late for Exeter Roses—and the result was precisely the same as in my own case; for whereas in the other parts of his garden his trees were marvels of growth and luxuriance, this quarter presented the same woe-begone aspect as my own. Hence the lesson one would have to learn from this is, that it is better when plants have been stimulated by a mild winter to run the risk of early pruning rather than defer it until a later period. By-the-by, what had better be done in such a case? I have an idea that it would be best to cut-back very hard to the old wood of last year, leaving about two or three eyes, and trusting to their shooting out low down, or even from underneath the ground, when the bud is inserted low.

3. It has, I think, demonstrated still further the excellence of the seedling Briar as a stock, especially for late blooms. I have elsewhere recorded the fineness of the blooms exhibited by Mr. Corp at Taunton on August 16th and at the Crystal Palace on September 21st, periods when it is not easy to find good blooms. In both these instances it is true that they were cut from maiden plants; but I understand from those who have grown them that they are also very fine from the cut-back plants. I heard so many persons expressing their determination to cultivate them largely that I am sure that this stock is increasing in popularity. With some, cuttings from the Briar find favour, the one drawback to the seedling Briar being that it takes so long to come to maturity that plants can hardly be sold so cheaply as those on the Manetti, and hence it is not a nurseryman's stock; but after awhile, when it comes to be more largely grown, perhaps this may be obviated.

4. It has been one of the most floriferous autumn seasons I have ever known. I know that someone has written about the Roseless autumn, but I cannot say that it has been my experience, and should imagine that it is very few localities to which this epithet would apply. Teas and Noisettes have been something wonderful. My plant of Rêve d'Or has been full of bloom, and has now (October 1st) a large number on it; while Hybrid Perpetuals have given me some excellent blooms, the principal being Baronne de Rothschild, Charles Lefebvre, Duke of Wellington, Capitaine Christy, Jules Margottin, Hippolyte Jamain, Dupuy-Jamain, Dr. Andry, and Baron Bonstetten. People sometimes sneer at the notion of Hybrid Perpetuals, but the difference is at once seen between such varieties and Paul Verdier and others which have been brought out as such, but which are simply summer Roses, never showing a second bloom. I may here mention that Mr. Noble's Queen of Bedders has with me well deserved the title; it is most free-growing, and I have never seen a shoot made yet without a bud at the end of it.

5. It has been a fine year for light-coloured Roses.

This one could hardly have anticipated, but as far as I have been able to form a judgment it is so. Certainly no Rose has come out so surprisingly as François Michelin. Wherever it has been exhibited it has been shown grandly, and has generally been chosen out as one of the finest, if not the very finest, blooms in the show. Other light Roses, such as Mons. Noman, Princess Mary of Cambridge, Comtesse de Serenyi, have done well, but it has exceeded them all; and it is one of the mysteries of Rose-growing why in particular seasons certain Roses seem to come out with such excellence. This is certainly the François Michelin year.

Such briefly is my record of the past season. Exceptional it has been without doubt, but Rose-growers have shown that no season thoroughly disappoints them, and when they can note some points of excellence in their favourites they take heart and go on with their culture in the firm hope in a good sense that "to-morrow (next season) shall be as this, and much more abundant."—D., Deal.

PLANTING FRUIT TREES.

AUTUMN has come again. Another season of growth is almost ended. Soon will the latest fruits be gathered and the fast-decaying foliage fallen; then, and often only then, comes the fruit-tree planter's opportunity before the soil, saturated by a winter's rainfall, has become sodden and cold. Mark this well, for success or failure in planting depends as much upon the time as upon the manner in which it is done. "PLOUGHBOY" would seem to be aware of this, for he has come to us now to assist him in finding a remedy, or rather a preventive, for the failure of fruit trees. He says, "Last year I planted in a marly soil a large quantity of fruit trees, and about half of them are dead," adding in the true national spirit, "I intend trying again." Well done, "PLOUGHBOY!" "Try again" is the motto which points to success, and gladly do we come to your aid.

Now there are two faults in a marly soil which require correction before it can become suitable for the growth of fruit, and these are its poverty and its power of retaining superabundant moisture. The remedy for the first is a heavy dressing of manure, and for the second drainage and a plentiful supply of coarse gritty matter, such as road scrapings, coal ashes, shattered bricks or stone chippings thoroughly mixed with the marl and manure, our object being to open up the soil to the action of the air as well as to drain and enrich it. It is of course desirable to treat the whole of the soil in this manner; but as this is a costly process it is customary to prepare stations for the trees, and to improve the condition of the remainder subsequently. Each station should be 6 feet square and 2½ feet deep, the bottom 6 inches being filled with broken stones rammed hard, and the 2 feet above filled with the prepared soil.

Drains of common 2-inch pipes should be made 30 feet apart and 4 feet deep, taking care to connect every station by a branch drain with the main nearest to it; for when stations are prepared in clay, or any substance of a compact adhesive nature, if they are undrained they become just so many death traps for the roots, owing to the accumulation of stagnant water. In my own practice I am not content to make a branch drain to the side of the station, but continue it right across the bottom, laying the row of pipes upon the hard-rammed stone. As a general rule it may be taken for granted, that when the soil in which fruit trees grow rests upon a deep compact subsoil drains will do good, but when the soil is shallow and has a substratum of rock, chalk, or shattered stone immediately beneath it (a natural drain), then of course artificial drains are uncalled for, and would, indeed, prove injurious.

Let the planting be done in November, pruning off all bruised roots, and shortening all leading shoots to about 9 inches. Do not bury the roots deeply, but keep them within 6 inches of the surface, spreading every one of them out carefully to its utmost length, treading the soil so that none of the roots lie at all loose in it. Cover the entire surface of the station with 3 inches of rough half-decayed manure immediately after planting, and fasten the tree securely with wire and stumps so that it may never be swayed by the wind, for if the roots and stem become loosened in the soil the tree will not grow and there is much risk of its dying. Always plant quickly, or cover the roots with soil when you receive them from the nursery. The effect of exposing the roots to the air is so pernicious that many a tree has been lost through it. Take care that the manure mixed with the soil is old and quite decayed,

or it may contain the spawn of fungi, which is also found in decaying wood and leaves, spreading thence over the roots of the tree and killing them.

Watch the trees carefully during the first season of growth after the planting. See that they do not suffer from drought. The surface-dressing of manure will act as a tolerable safeguard, but two or three thorough soakings of water or sewage are of material assistance to the growth and health of the tree in a dry season. See also that any fastenings of string or wire are loosened in time to prevent harm to the bark, which swells very fast upon a healthy strong-growing young tree.

Given healthy trees and due attention to these hints there ought not to be a single failure. Every point and detail mentioned is, however, of equal importance with the rest; and I must insist upon no negligence in any respect, for failures often arise from inattention to some matter apparently trivial in itself but of vital importance in its influence upon other things, and "PLOUGHBOY" will probably find that his lamentable failure was caused by inattention to some so-called trifle.—EDWARD LUCKHURST.

STORING POTATOES.

I THINK wherever it is possible the plan advocated by Mr. Luckhurst should be followed. I have proved the value of it, and so will others who practise it. The following is the results obtained here:—We will commence with the soil, which is very stiff and heavy, with a clay subsoil, undrained. We prepare our ground for Potatoes by rough digging or trenching in the winter, working-in all the manure we can procure. The sets are planted in drills 4 or 5 inches deep, 2½ feet between the drills, about the end of February or early in March. A mixture of soot, lime, and guano mixed with fine dry soil is sprinkled along the drills at the time of planting. The earlies are not planted so deep or wide between the drills, and are kept earthed-up as they appear above ground to protect from frost. The late sorts are not earthed-up at all. We use the prong hoe between the rows once, and keep clear of weeds. About the first or second week in August we keep a sharp look-out for the first appearance of the disease, and as soon as it is discovered the haulm is all taken-up without delay and removed off the ground. The crop is lifted as early as possible, ripe or not ripe. A great many people, I know, object to lifting before the skin is set, but if the ground is in good working order and the tubers come out clean, then by all means out with them, but be careful and not rub them more than you can help. We place them in a dry airy shed as thin as room will permit, and we always sprinkle a little slaked lime among them as they are emptied-out of the baskets. Out of fifteen sacks grown this season we have had only about one gallon diseased, and last year and the year before we had scarcely a diseased Potato. We grow Snowflake, Rivers' Early Ashleaf, Bresee's Prolific, Regents, Berkshire Kidneys, and Oxfordshire Kidney (which is the best late Potato I know), and Sutton's Red-skinned Flour-ball.—H. PLATON, *Bearsted Vicarage, Maidstone.*

THE ROSE ELECTION.—No. 3.

VOTES IN ELECTION.

In the first seven returns the Roses are placed in the order of merit—in twelve, twenty-four, and forty-eight varieties:—

Rev. C. P. PEACH, *Appleton-le-Street.*

- | | |
|---------------------------|--------------------------------|
| 1. Maréchal Niel | 7. Baronne de Rothschild |
| 2. Alfred Colomb | 8. Mdlle. Marie Rady |
| 3. Marquise de Castellane | 9. Etienne Levet |
| 4. Charles Lefebvre | 10. Comtesse d'Oxford |
| 5. Marie Baumann | 11. François Michelin |
| 6. La France | 12. M. Eugénie Verdier |
| 13. Dr. Andry | 19. Dupuy-Jamain |
| 14. Miss Hassard | 20. Madame Victor Verdier |
| 15. Louis Van Houtte | 21. Marguerite de St. Amand |
| 16. Emilie Hausburg | 22. Princess Mary of Cambridge |
| 17. John Hopper | 23. Maurice Bernardin |
| 18. Duc de Wellington | 24. Annie Wood |
| 25. Sénateur Vaisse | 37. Fisher Holmes |
| 26. Marie Van Houtte | 38. Pierre Notting |
| 27. Annie Laxton | 39. Thomas Metbren |
| 28. Belle Lyonnaise | 40. Madame Vidot |
| 29. Souvenir d'un Ami | 41. Victor Verdier |
| 30. Xavier Olibo | 42. Madame Lashame |
| 31. Mdlle. Thérèse Levet | 43. Madame Caillat |
| 32. Lord Macaulay | 44. Mons. Noman |
| 33. Abel Grand | 45. Wilson Saunders |
| 34. Gloire de Dijon | 46. Céline Forestier |
| 35. Général Jacqueminot | 47. Capitaine Christy |
| 36. Duchesse de Morry | 48. Edouard Morren |

Mr. ALFRED CHATER, *Cambridge.*

1. Charles Lefebvre
2. Maréchal Niel
3. Marie Baumann
4. Madame Victor Verdier
5. François Michelin
6. Marquise de Castellane
13. Louis Van Houtte
14. Dr. Andry
15. Emilie Hausburg
16. Mlle. Eugénie Verdier
17. Devoniensis
18. Madame Willermoz
25. Xavier Olibo
26. Pierre Notting
27. Marguerite de St. Amand
28. Dupuy-Jamain
29. Maurice Bernardin
30. Souvenir d'un Ami
31. Etienne Levat
32. Mons. Noman
33. Prince Camille de Rohan
34. Horace Vernet
35. Sir Garnet Wolseley
36. Marie Van Houtte
7. Alfred Colomb
8. Comtesse d'Oxford
9. John Hopper
10. Catherine Mermet
11. La France
12. Baronne de Rothschild
19. Victor Verdier
20. Edouard Morren
21. Reynolds Hole
22. Marie Rady
23. Sénateur Vaisse
24. Duke of Edinburgh
37. Souvenir d'Elise
38. Duc de Wellington
39. Gloire de Santenay
40. Beauty of Waltham
41. Duchesse de Caylus
42. Abel Grand
43. Niphotos
44. Duc de Rohan
45. Prince de Portia
46. Rev. J. B. M. Camm
47. Felix Genero
48. Gloire de Vitry

Mr. J. L. CURTIS, *Chatteris, Cambs.*

1. Charles Lefebvre
2. Marie Baumann
3. La France
5. François Michelin
13. Dr. Andry
15. Marguerite de St. Amand
16. Reynolds Hole
17. Madame Victor Verdier
18. Duchesse de Morny
25. Dupuy-Jamain
26. Auguste Rigotard
27. Louis Van Houtte
28. Duchesse de Caylus
29. Marie Rady
30. Eugénie Verdier
31. Marie Finger
32. Marie Cointet
33. Duc de Wellington
34. Lord Macaulay
35. La Ville de St. Denis
36. Comtesse de Serenyi
5. Duc de Rohan
9. Maréchal Niel
10. Marguerite Dombrain
11. Duke of Edinburgh
12. Etienne Levat
19. Comtesse d'Oxford
20. Olivier Delhomme
21. Emilie Hausburg
22. Cloth of Gold
23. Sénateur Vaisse
24. Xavier Olibo
37. Madame Nachury
38. Monsieur Noman
39. Abel Grand
40. Catherine Mermet
41. Souvenir d'Elise
42. Marie Van Houtte
43. Queen Victoria
44. Maurice Bernardin
45. Victor Verdier
46. Madame Charles Wood
47. Monsieur Boncenne
48. Camille Bernardin

*This Rose I should place much higher but for its great predisposition to turn blue.

Mr. J. LAKIN, *Chipping Norton.*

1. Maréchal Niel
2. Marie Baumann
3. Alfred Colomb
4. La France
5. Devienne Lamy
6. Marguerite Brassac
13. Charles Lefebvre
14. Mlle. Marie Rady
15. François Michelin
16. Marquise de Castellane
17. Catherine Mermet
18. Etienne Levat
25. Maurice Bernardin
26. Hippolyte Jamain
27. Mlle. Marie Finger
28. Marie Van Houtte
29. Comtesse de Serenyi
30. Horace Vernet
31. Ferdinand de Lesseps
32. Madame Marie Cointet
33. Prince Camille de Rohan
34. Fisher Holmes
35. Reynolds Hole
36. Souvenir d'un Ami
7. Baronne de Rothschild
8. Madame Victor Verdier
9. Mlle. Eugénie Verdier
10. Souvenir d'Elise
11. Louis Van Houtte
12. Dr. Andry
19. Star of Waltham
20. Perle des Jardins
21. Capitaine Christy
22. Dupuy-Jamain
23. Camille Bernardin
24. Madame Lacharme
37. Duchesse de Caylus
38. Pierre Notting
39. Le Havre
40. Marie Ducher
41. Princess Beatrice
42. John Stuart Mill
43. Sénateur Vaisse
44. Edward Morren
45. Beauty of Waltham
46. Nardy Freres
47. John Hopper
48. Madame Bernutz

Rev. ALAN CREALES, *Brockham Vicarage.*

1. Charles Lefebvre
2. Maréchal Niel
3. Alfred Colomb
4. Baronne de Rothschild
5. Marie Baumann
6. La France
13. François Michelin
14. Mlle. Eugénie Verdier
15. Duke of Edinburgh
16. Pierre Notting
17. Reynolds Hole
18. Mlle. Marie Finger
25. Madame Lacharme
26. Camille Bernardin
27. Madame Charles Crapelet
28. Marguerite de St. Amand
29. Princess Mary of Cambridge
30. Capitaine Christy
31. Monsieur Noman
32. Comtesse de Serenyi
33. Emilie Hausburg
7. Marquise de Castellane
8. Comtesse d'Oxford
9. Louis Van Houtte
10. Madame Victor Verdier
11. Annie Wood
12. Marie Rady
19. Madame Bravy
20. Niphotos
21. Victor Verdier
22. Annie Laxton
23. Gloire de Dijon
24. Souvenir d'un Ami
34. Horace Vernet
35. Dupuy-Jamain
36. Hippolyte Jamain
37. Sénateur Vaisse
38. Xavier Olibo
39. Edward Morren
40. Duc de Wellington
41. Fisher Holmes
42. Princess Beatrice

43. Ferdinand de Lesseps
44. Baron Gonella
45. Mlle. Thérèse Levat

46. Duchesse de Vallombrosa
47. John Hopper
48. Rev. J. B. M. Camm

Mr. A. T. CROSS, *St. George's Terrace, Chesterton, Cambs.*

1. Maréchal Niel
2. Alfred Colomb
3. Charles Lefebvre
4. La France
5. Marie Baumann
6. Baronne de Rothschild
13. Comtesse d'Oxford
14. Mlle. Eugénie Verdier
15. Xavier Olibo
16. John Hopper
17. Etienne Levat
18. Emilie Hausburg
25. Duchesse de Edinburgh
26. Vierge Vigier
27. Dr. Andry
28. Marguerite de St. Amand
29. Edward Morren
30. Prince Camille de Rohan
31. Ferdinand de Lesseps
32. Camille Bernardin
33. Rev. J. B. M. Camm
34. Elie Morel
35. Duchesse de Morny
36. Cheshunt Hybrid
7. Duke of Edinburgh
8. François Michelin
9. Madame Victor Verdier
10. Sénateur Vaisse
11. Marquise de Castellane
12. Louis Van Houtte
19. Souvenir de Coulommiers
20. Devoniensis
21. Mlle. Marie Rady
22. Horace Vernet
23. Reynolds Hole
24. Catherine Mermet
37. Thomas Mills
38. Duc de Wellington
39. Gloire de Dijon
40. Mlle. Thérèse Levat
41. Maurice Bernardin
42. Duc de Rohan
43. Marie Van Houtte
44. Victor Verdier
45. Madame Bravy
46. Maréchal Vaillant
47. Leopold I.
48. Madame Willermoz

Mr. W. SCRUBY, *Harlow, Essex.*

1. Baronne de Rothschild
2. François Michelin
3. Marie Finger
4. Duke of Edinburgh
5. Catherine Mermet
6. Charles Lefebvre
13. Rubens
14. Magna Charta
15. Victor Verdier
16. Louis Van Houtte
17. Celine Forestier
18. Baron de Bonstetten
25. Maréchal Robert
26. Star of Waltham
27. Hippolyte Jamain
28. Marie Rady
29. Edward Morren
30. Empress of India
31. Monsieur Noman
32. President Thiers
33. Comtesse d'Oxford
34. Marquise de Castellane
35. Centifolia Rosea
36. Bessie Johnson
7. La France
8. Etienne Levat
9. Monsieur E. Y. Teas
10. Mlle. Eugénie Verdier
11. Alfred Colomb
12. Capitaine Christy
19. Marie Baumann
20. Reynolds Hole
21. Princess Mary of Cambridge
22. Niphotos
23. Devoniensis
24. Maréchal Niel
27. Dr. Hooker
38. Jean Liabaud
39. Duchesse de Vallombrosa
40. Marie Van Houtte
41. Henri Ledebaux
42. Madame Lacharme
43. Le Havre
44. Thomas Mills
45. Wilson Saunders
46. Marie Cointet
47. Madame George Schwartz
48. Baronne Haussman

In the three following returns the first twenty-four Roses are placed in order of merit; the remainder not in order of merit:—

Rev. J. B. M. CAMM, *Monckton Wyld, Charnmouth.*

1. Maréchal Niel
2. Souvenir d'Elise
3. Souvenir d'un Ami
4. Marie Van Houtte
5. Catherine Mermet
6. Cloth of Gold
13. Mlle. Eugénie Verdier
14. Duke of Edinburgh
15. Emilie Hausburg
16. Beauty of Waltham
17. Abel Carrière
18. Pierre Notting
25. Xavier Olibo
26. Marguerite Brassac
27. Marquise de Mortemart
28. Horace Vernet
29. Sénateur Vaisse
30. Marie Cointet
31. John Hopper
32. Monsieur Noman
33. Madame Victor Verdier
34. Jean Ducher
35. Edward Morren
36. François Michelin
7. Charles Lefebvre
8. Alfred Colomb
9. Marie Baumann
10. Marquise de Castellane
11. La France
12. Baronne de Rothschild
19. Ferdinand de Lesseps
20. Camille Bernardin
21. Marie Rady
22. Dr. Andry
23. Etienne Levat
24. Marguerite de St. Amand
37. La Rosière
38. Annie Wood
39. Duc de Wellington
40. Sir Garnet Wolseley
41. Duke of Connaught
42. Prince Arthur
43. Duchesse de Caylus
44. Général Jacqueminot
45. Madame Caillaud
46. Mons. E. Y. Teas
47. Louis Van Houtte
48. Prince Camille de Rohan

Mr. A. EVANS, *Marston, Oxford.*

1. Maréchal Niel
2. Alfred Colomb
3. Marie Baumann
4. Charles Lefebvre
5. Mlle. Marie Cointet
6. La France
13. Devienne Lamy
14. Marguerite de St. Amand
15. Etienne Levat
16. Emilie Hausburg
17. Duke of Edinburgh
18. Perle de Lyon
25. Royal Standard
26. Monsieur E. Y. Teas
7. Felix Genero
8. François Michelin
9. Baronne de Rothschild
10. Louis Van Houtte
11. Madame Victor Verdier
12. Xavier Olibo
19. Pierre Notting
20. Sénateur Vaisse
21. Capitaine Christy
22. Dr. Andry
23. Mlle. Thérèse Levat
24. Marquise de Castellane
27. Sir G. Wolseley
28. Duc de Rohan

29. Duke of Wellington
30. Edward Morren
31. Comtesse d'Oxford
32. Madame Charles Wood
33. Miss Hassard
34. Princess Beatrice
35. Mlle. Marie Rady
36. Madame Marie Finger
37. Maurice Bernardin
38. Hippolyte Flandria

39. Thomas Mills
40. Horace Vernet
41. Madame Lacharme
42. Belle Lyonnaise
43. Auguste Bigotard
44. Reynolds Hole
45. John Hopper
46. Mlle. Eugénie Verdier
47. Madame Georges Schwartz
48. Prince Camille de Rohan

Mr. SMALLBONES, Chatteris, Cambridge.

1. Maréchal Niel
2. Alfred Colomb
3. Charles Lefebvre
4. Baronne de Rothschild
5. Marie Baumann
6. La France
13. Ferdinand de Lesseps
14. Monsieur Noman
15. Duke of Edinburgh
16. Sénateur Vaisse
17. Dr. Andry
18. Monsieur E. Y. Teas
25. Abel Grand
26. Baron Bonstetten
27. Capitaine Christy
28. Comtesse d'Oxford
29. Duc de Rohan
30. Fisher Holmes
31. John Hopper
32. Marguerite de St. Amand
33. Marie Finger
34. Madame Hippolyte Jamain
35. Mlle. Eugénie Verdier
36. Madame Lacharme

7. Louise Van Houtte
8. Etienne Levét
9. Mlle. Marie Rady
10. Camille Bernardin
11. Madame Victor Verdier
12. François Michelin
19. Xavier Olibo
20. Reynolds Hole
21. Marquise de Castellane
22. Hippolyte Jamain
23. Comtesse de Serenyi
24. Horace Vernet
37. Madame C. Wood
38. Emilie Hansburg
39. Prince Camille de Rohan
40. Pierre Notting
41. Princess Beatrice
42. Mlle. Thérèse Levét
43. Souvenir d'un Ami
44. Devonensis
45. Marie Van Houtte
46. Catherine Mermet
47. Belle Lyonnaise
48. Gloire de Dijon

REV. CANON HOLE, Cauntton Manor, Newark.

These are extracted from the "Book on Roses," and are not placed in order of merit.

1. Alfred Colomb
2. Baronne de Rothschild
3. Charles Lefebvre
4. Emilie Hansburg
5. Etienne Levét
6. François Michelin
18. Capitaine Christy
14. Comtesse d'Oxford
15. Comtesse de Paris
16. Devonensis
17. Duchesse de Vallobrosa
18. Duke of Edinburgh
25. Comtesse de Serenyi
26. Dr. Andry
27. Duchesse de Caylus
28. Exposition de Brie
29. Hippolyte Jamain
30. Madame Clemence Joigneux
31. Madame Victor Verdier
32. Marguerite de St. Amand
33. Madame Hippolyte Jamain
34. Miss Hassard
35. Souvenir d'Elise
36. Souvenir de Spa

7. La France
8. Louis Van Houtte
9. Maréchal Niel
10. Marquise de Castellane
11. Marie Baumann
12. Xavier Olibo
19. Dupuy-Jamain
20. Edward Morren
21. Marie Finger
22. Pierre Notting
23. Reynolds Hole
24. Souvenir d'un Ami
37. Annie Wood
38. Catherine Mermet
39. Duc de Rohan
40. Horace Vernet
41. Leopold Hansburg
42. Mlle. Thérèse Levét
43. Mlle. Eugénie Verdier
44. Maréchal Vaillant
45. Mlle. Marie Rady
46. Rabens
47. Sénateur Vaisse
48. Victor Verdier

W. WOOTTEN WOOTTEN, Esq., Headington House, Oxon.

Best forty-eight exhibition Roses in alphabetical order.

1. Alba Mutabilis
2. Alfred Colomb
3. Baron de Bonstetten
4. Baronne de Rothschild
5. Camille Bernardin
6. Capitaine Christy
7. Charles Lefebvre
8. Climbing Devonensis
9. Comtesse de Nadaillac
10. Comtesse de Serenyi
11. Comtesse d'Oxford
12. Duke of Edinburgh
13. Edward Morren
14. Emilie Hansburg
15. Etienne Levét
16. Ferdinand de Lesseps
17. François Michelin
18. Gloire de Dijon
19. Henri Pages
20. Hippolyte Jamain
21. John Hopper
22. La France
23. Lord Clyde
24. Louis Van Houtte
25. Madame Bravy
26. Madame Lacharme
27. Madame Victor Verdier
28. Mlle. Eugénie Verdier
29. Mlle. Thérèse Levét
30. Maréchal Niel
31. Marquise de Castellane
32. Marie Baumann
33. Marie Cointet
34. Maurice Bernardin
35. Miss Hassard
36. Miss Ingram
37. Monsieur E. Y. Teas
38. Monsieur Noman
39. Nardy Frères
40. Niphetos
41. Oxonian
42. Pierre Notting
43. Prince Camille de Rohan
44. Royal Standard
45. Sénateur Vaisse
46. Sir Garnet Wolseley
47. Victor Verdier
48. Xavier Olibo

N.B.—La Rosière, Marguerite Brassac, Prince Camille de Rohan, and Charles Lefebvre not sufficiently tested.

Mr. D. L. CODDINGTON, Oldbridge, Drogheda, Ireland.

1. Abel Grand
2. Alfred Colomb
3. Annie Diesbach
4. Auguste Bigotard
5. Baronne de Rothschild
6. Beauty of Waltham
7. Boule de Neige

8. Camille Bernardin
9. Catherine Mermet
10. Centifolia Rosea
11. Charles Lefebvre
12. Cloth of Gold
13. Comtesse de Nadaillac
14. Comtesse de Serenyi

15. Dr. Andry
16. Duke of Edinburgh
17. Duc de Wellington
18. Dupuy-Jamain
19. Edward Morren
20. Emilie Hansburg
21. Etienne Levét
22. Fisher Holmes
23. Général Jacqueminot
24. John Hopper
25. La France
26. Lelia
27. Leopold I.
28. Lord Macaulay
29. Madame C. Wood
30. Madame Hippolyte Jamain
31. Madame Nachury
32. Mlle. Marie Cointet
33. Mlle. Marie Rady
34. Maréchal Niel
35. Marguerite de St. Amand
36. Marie Baumann
37. Marquise de Castellane
38. Maurice Bernardin
39. Miss Ingram
40. Monsieur E. Y. Teas
41. Mrs. Baker
42. Niphetos
43. Prince Camille de Rohan
44. Sir G. Wolseley
45. Souvenir d'un Ami
46. Souvenir d'Elise
47. Souvenir de la Malmaison
48. Xavier Olibo

GRAPES CRACKING.

In criticising the remarks of "A KITCHEN GARDENER," who had recommended leaving a portion of the top of the Vine to grow at will, Mr. W. Harris (see page 272) says he does not believe that the means adopted prevented the Grapes cracking, and he sums up the recommendation of another writer to take a portion of the foliage off the fruiting branches in a similar unceremonious way.

Now, it does seem strange at first sight that two very opposite proceedings should have a similar effect, but I hope to show that they are not so much in opposition as at first sight appears; and as I happen to be the other writer referred to I shall of course try to make my own point good, and will commence by telling Mr. Harris that his physiology is a little faulty when he believes that by taking a portion of foliage off he "would force more sap into them (the berries) and cause them to crack worse." All gardeners ought to know that the foliage has the power of attracting moisture and gases from the soil to a large extent, but that this power in the fruit itself is very limited. If you want a fruit to grow fast encourage plenty of foliage leading up to and beyond it; the channels of supply are enlarged thereby, and the communication is swifter. Any given branch of such a tractable plant as the Vine can be enlarged at will by bearing in mind this primary use of the foliage and regulating it accordingly. Again, not only does the foliage pump up the necessary elements for supplying the fruit, but at the same time as the foliage enlarges it causes the roots to act in harmony with it, and consequently to keep up an ever-increasing supply.

Although I do not covet large bunches of Grapes I have a great partiality for large berries and good finish, and as I know these cannot be had without ample foliage I do not stop the shoots in the orthodox way, but allow as much to grow as there is room for, especially after the commencement of stoning. Under these conditions and with liberal feeding any kind of Grape will be liable to crack if the Vine is not carrying a full crop; but the first cracked berry would be the signal for checking the growth by stopping the points or perhaps taking a few of the young growths off altogether, and the cure would be almost instantaneous. The only difficulty is to know how much to do, for there is a danger of overdoing it, and I pointed out last year that in dealing with a Madresfield Court Vine I took too much off, and the berries did not finish colouring nicely.

I follow the same system with Melons. Cashmere, which is grown largely, is very liable to crack just as it is ripening; but taking the foliage off beyond the fruit, and if necessary some of that leading up to it, will generally make all safe, and is a more certain method than strangling the stem.

So much for the denuding process. Now, how am I to reconcile it with "A KITCHEN GARDENER'S" of allowing the top to grow freely? Simply thus—the sap naturally flows most freely to the top at any time, and by stopping the side shoots in closely, while allowing the top to grow freely, it would of course more certainly take the main line, and the branches, especially those low down, would get little or nothing. At the same time if there were a bunch on the main rod I should not be surprised to see it cracked.—WILLIAM TAYLOR.

HAVING overcome the difficulty of growing Madresfield Court Grape without cracking, at least last year and this, I may, perhaps, be able to assist other cultivators who are troubled with their Grapes cracking. I have sent by rail a small bunch cut from a Vine with a heavy crop of bunches averaging in weight from 1 lb. to 4 lbs., and not a berry cracked on the Vine. The plan I adopt is this: As soon as I see the Grapes commence swelling after stoning I begin leaving on a

little air top and bottom all night, and keep on increasing the amount little by little till the cracking period arrives, by which time I have no trouble at all with ventilating, as I leave on just as much at night as I do in the day, and I manage to grow several of the leading varieties in this way, including Muscat of Alexandria, Muscat Hamburg, Madresfield Court, Black Hamburg, Lady Downe's, Alicante, and Frontignan. I might add I never use a syringe in any vinery, not even sprinkle a rod when they are breaking, although I have had from fifteen to twenty years' teaching to do so by several good Grape-growers. I provide all moisture required by sprinkling water on the floor of the house, and I am not troubled with red spider, as you will see by the leaves sent. No doubt the "fixed temperature" growers will disagree with what I say, but the proof of the pudding is in eating it; and I have two or three vineries yet with Grapes in, which I should not have the least hesitation to show any Grape-grower, grown with the wind blowing through the houses.—T. T., *Eastbourne*.

[The foliage sent is clean and healthy, the bunch of good form, not a berry cracked, and the bloom excellent.—Eds.]

COMPANY SHOWS.

BEING one of those who have always understood that the primary object of horticultural exhibitions is to benefit horticulture, I cannot but regret the tendency which is becoming established of societies selling themselves to public companies, gaining, it may be, a small immediate pecuniary advantage, but running the risk of humiliation, and not attaining in a certain and substantial manner the object desired. Some dissatisfaction has been expressed and much more felt at visitors having been excluded from the Aquarium Potato Show; but it must be remembered that the object of the Aquarium Managers was different from that of the Potato Show Committee. The desire of the promoters of the Show was to attract public interest towards their object, and this object a worthy one—namely, to foster improvement in Potato culture, and to encourage the production of superior varieties. The object of the Aquarium Company was to make money. They simply regard the Potato or any other society of a horticultural nature as means to that end: hence they bid for their prestige, buy them for the time being, and make the best of them. The matter of company shows is one which seriously requires to be considered; and I hope there is sufficient of the true horticultural spirit left to prevent the craft or science, call it what you like, with which so many are identified being made subservient to the purpose of any company who have no sympathy for an object beyond what they can extract from it for raising their dividends. I consider an alliance of horticulture and acrobats unseemly, unnatural, and incongruous. What do others say?—AN OLD EXHIBITOR.

THE ROSELESS AUTUMN.

BOTH Mr. D. T. Fish and Mr. W. Paul have publicly referred to the passing season as the Roseless autumn. Is it so? I, in common with most gardeners, dabble in a few Roses (my collection does not exceed four hundred), and with me in Surrey the supply has been abundant and the quality most excellent, especially with the darker varieties. I send you (October 1st) a dozen varieties, in order that you may see that we are not yet "Roseless"—viz., Madame Victor Verdier, Charles Le-fevre, Duke of Wellington, Mrs. Veitch, Victor Verdier, Madame Charles Crapelet, Sénateur Vaisse, Vicomte Vigier, Sir Joseph Paxton (from a wall of which I could cut many clusters), Madame Berard, Souvenir de la Malmaison, and the never-failing Gloire de Dijon; this latter will supply many blooms yet. As for the Old Monthly or China Rose, I can safely say there has not been such a profusion of bloom on them any time before this season. On Thursday, September 27th, I cut quite eighty blooms from my Perpetuals, and have been continually cutting since June, and judging from what I have seen there are many other places where Roses have been in glorious profusion. I am an utter stranger to the locality in which Mr. Fish lives, and the sunless autumn, together with the large amount of rain which has fallen in several parts of England, may have had much to do with the Rose's shortcomings in that situation; but with Mr. W. Paul the case is very different, and the corroboration of Mr. Fish's statement perfectly astounded me after seeing the extensive collections which have been voluntarily exhibited both at the Alexandra and Crystal Palaces, on September 13th and 21st respectively. At the

Alexandra Palace fourteen boxes, representing nearly 350 Roses, came from Messrs. Cranston & Co., Hereford; a great number also came from Messrs. Paul & Son, Cheshunt; others from Mr. Rumsey of Waltham Cross and Mr. Corp of Oxford, making on the whole a very extensive display. Was this an indication of scarceness? At the Crystal Palace there were collections from Messrs. Paul & Son, Mr. Turner, Mr. Cranston, Mr. Corp, and from Messrs. William Paul & Son. Was there any indication of a scarcity even on the 21st? On September 12th I was at Brighton. Messrs. Mitchell & Son staged forty-eight varieties in trebles; two other competitors also competed in this class. Teas were also numerous represented, not only by the trade, but by several amateurs. Altogether there were considerably over a thousand blooms exhibited, the majority of which, both nurserymen's and amateurs', were of very good quality.

With me the late frost during May did much damage to the forward buds, and a yellowish green caterpillar and the Rose maggot destroyed others, so that I had not such an influx at one time as I might otherwise have had, and possibly I have been repaid by a subsequent and unusually fine autumn display. Besides those sent Marquise de Castellane, La France, Baronne de Rothschild, and Madame and Marie Finger have been very fine during the present autumn.—J. W. MOORMAN.

[The blooms received were extremely fine, and at the exhibitions referred to Roses were exhibited in greater numbers and of better quality than we ever remember having seen at previous autumn shows.—Eds.]

NOTES ON MILDEW.

"HEREFORDSHIRE INCUMBENT'S" generalisms on mildew on pp. 263 and 264 contain a quotation which says that mildew is the result of a peculiar state of the atmosphere. As regards Vines in vineries I am of opinion that a close moist atmosphere will produce mildew. I believe this from two cases which have come under my own observation. In both cases close confined atmosphere started it, and when once the Vine mildew becomes established there is the risk of its spreading through every vinery, and may reach Vines also in other places in the vicinity of these affected. Proper ventilation of vineries is most important in order to prevent it. If it should make its appearance dusting the bunches or the house with salus is better than sulphur. It is lighter than sulphur, and if dusted on the bunches can easily be blown off again, and whenever it touches the mildew it destroys it, but although this is the case it still leaves the mark where the mildew has been.

Vine mildew is very different to the kind that affects the Rose and Peach tree, though no doubt the same kind of influences will generate either. Peach trees sometimes may only be affected in one or two cases in a garden, and the variety Royal George is a likely one to be affected. It may be considered singular how one Peach tree may be much affected with mildew and another beside it not touched. The probability is that the case would be different in a vinery, for as I have just noted, the mildew would go over the whole house. With Roses in pots in a Peach house I have observed that with want of ventilation the mildew soon makes its appearance and curls up and whitens the leaves of the Rose plants when the Peaches are not affected. This shows that Roses are more liable to mildew under a close atmosphere than Peach trees, being affected with it in an atmosphere in which Peaches are exempt.—R. M.

STRAWBERRIES.

No doubt Mr. Luckhurst is right in saying that Strawberries will grow in sound rich loam, but it is, nevertheless, a fact that some sorts will grow in such soil better than others. It is just possible that my experience as a cultivator of Strawberries is equal to that of your correspondent, and my success also may have nearly equalled his. I have tried, I think, all established varieties in cultivation, and have given such attention to the soil that my experience suggested was requisite, and I think, but of course I may be wrong in this point, that Mr. Luckhurst could not have done more. But after all I could do, La Constante, for instance, was comparatively worthless, while President was magnificent; Rivers' Eliza was very unsatisfactory, Sir Joseph Paxton was splendid; Amateur was only moderate, Lucas extremely fine; British Queen and Dr. Hogg I could also grow well. A mile from me was a clergyman's garden with soil of better staple than mine—

fresher and stronger. Runners from my fine Presidents produced insignificant crops in the rector's garden, while plants raised from my comparatively poor Amateurs yielded abundantly there, and La Constante was equally good when similarly removed. Would it not have been a mistake on the part of the rector and myself to have incurred both labour and expense in attempting to grow sorts which proved themselves unmanageable by local peculiarities, while we had other good varieties which flourished well with ordinary cultural care?—
A YORKSHIREMAN.

A PAPER FLOWER BASKET.

ALL who have a garden know how gratefully those not similarly circumstanced welcome the gift of a few flowers to take away with them. The difficulty is how to take them. They are either made up into a wisp and carried in a warm hand to wither and die, or else a basket is lent with the doubt, too

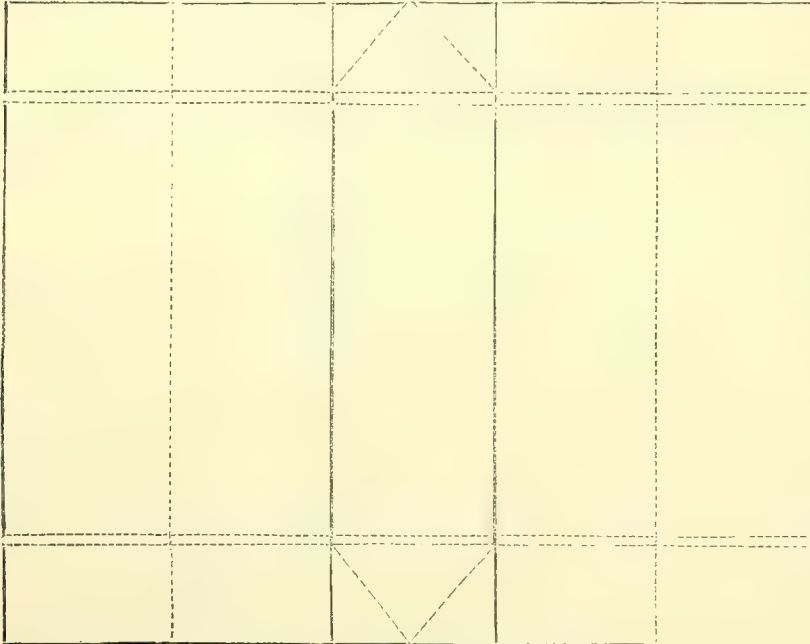


Fig. 58.—Pattern for Making Paper Flower Basket.

often a certainty, as to whether the owner will ever see it again. I send you herewith directions and a pattern by which anyone

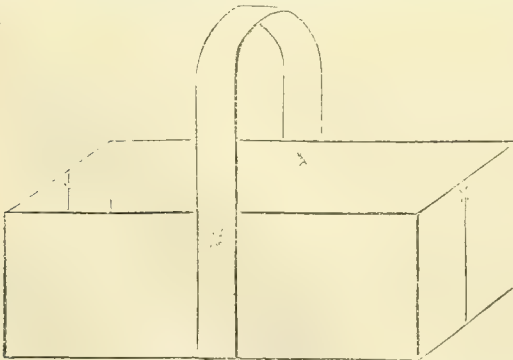


Fig. 59.—Paper Flower Basket.

may in a few minutes make out of strong brown paper a basket that will answer the purpose, and concerning the returning of which there need be no questioning. My daughter has found such a basket very useful, and I have no doubt it will be a boon to many who wish to distribute their floral favours amongst their friends.

Instructions for Making the Basket.—Take a piece of brown paper 13 inches by 11, and fold it in five equal portions like

the pattern; then spread it open and fold in again where the dotted lines are, making the single fold the bottom, the double the sides; then lay it flat again—this time it will be divided in three pieces—and fold for the ends where the double dotted line is. Now take the two ends and bend them up to meet each other, folding the middle piece in at the ends according to dotted lines as shown there. One end will now fit in to the other, and must be secured by a few stitches. A strip of paper will be wanted for the handle 16 inches long, 4 or 5 wide; fold it four times and join underneath the basket, and secure it at the side in the same way as the basket. Of course the basket can be any size; these are simply right proportions.
—D., Deal.

JOTTINGS ABOUT PEARS IN THE NORTH.

THIS being the commencement of the planting season, what to plant is of importance, and it may be the more worth knowing when I state that of thirty-eight varieties of Pears eight of one variety were all that had any pretence to a crop, and many of these dropped midway in the season. That my remarks may be valued for just so much as they are worth, I may be permitted to state that, a little over two years ago a fine old pasture field of two and a quarter acres being offered for sale within a quarter of a mile of where my father for over thirty years laboured as a market gardener, I decided to throw up my trade as joiner and builder and commence the occupation more after my heart—a fruit-grower. I decided with hardy outdoor fruit to secure every variety recommended, and then at the earliest possible opportunity to reduce the number to only those which did best in the locality. This, as stated, found me last spring with the number of Pears named, and with the exception of Beurré de l'Assomption and Souvenir du Congrès, which I had only as maidens or trained, they were all well set with fruit buds. The third week in January threatened to see many of them in bloom, and the bloom would have been strong and promising. The third week in May found them in bloom, but blighted and miserable-looking; and seeing

that we had not the severe frosts in the county of Durham in May which there were in the south of England (my own glass never registering more than 5°), I attribute the failure here, not to frost but to the embryo blossom having perished during the great length of time it hung in the half-expanded state. When we had frost it was always after a dry day, but for weeks together we had little but rain, and rain, and clouds, and cold. I carefully, night after night, wrapped large sheets of paper around one and more trees of every variety; but the result was no perceptible difference between the covered and the uncovered trees. The most healthy-looking bloom was on eight trees of Pitmaston Duchess: it was not thickly set, but remarkably promising. The most miserable-looking were eight trees of Durandau, and on these trees every leaf perished; but singular, these were of the variety that set fruit, and they have also set a second crop, but, of course, of no value. What I bought for Alexandre Bivort is the third variety, but both last year and this the fruit has been smaller than I expected. Of over twenty trees of Louise Bonne of Jersey, and which is admitted to be one of the hardest, neither on my protected or unprotected trees had I a single fruit; neither had I one on eight and more trees of any of the following:—Baronne de Mello, Beurré Bachelier, Beurré d'Amanlis, Beurré Hardy, Beurré Superfin, Williams' Bon Chrétien, Maréchal de Cour, Doyenné du Comice, Joséphine de Malines, Madame Treyve or Olivier de Serres; one on Marie Louise, whilst of Marie Louise d'Uccle I have a fair crop. My Hesses even failed to set a fruit, but with them it was hardly a fair trial, and, judging by my neighbours' trees, my unhesitating opinion is that Marie Louise d'Uccle is as hard as the Hesse, and is destined

of first-class Pears to be the Pear of the north of England. One other thing is worthy of notice: Had the Pear crop in the north been ever so abundant it would have been next to valueless, as the fruit has grown to little more than half its usual size. The cold ground, through lack of sun, has undoubtedly prevented their swelling.—J. WITHERSPOON, *Chester-le-Street*.

Will anyone tell me his experience of the Pear Désiré Cornélis? It is highly spoken of in the "Fruit Manual," but I have never met with it. I tried last year to buy a tree or grafts, but failed. Neither Messrs. Rivers nor Mr. Smith of Worcester could supply me; I should like to know where I could procure it.

I for one should be very glad if now, at the commencement of the planting season, your correspondents would give us the benefit of their experience in the matter of Pears, stating, of course, their locality, and whether the Pears which they recommend or condemn (for this should be done as well as the former) are grown as standards or against a wall. There are some old favourites that succeed anywhere, and of course need not be mentioned—e.g., Jargonelle, Marie Louise, Winter Nelis, Seckle, Glou Morceau; but there are many kinds more recent or less known which may well deserve to be ranked with these. There is a certain pleasure in trying experiments, but life is too short to plant many varieties of Pears and then to be disappointed by them.

I can recommend Doyenné du Comice (pyramid), Bergamotte Esperen (wall, s.e.), and Joséphine de Malines (wall, s.e.), especially the latter, as quite first-rate. Louise Bonne of Jersey is inferior with me. Knight's Monarch will not ripen, nor Beurré Diel. Fondante d'Automne is good, so is Comte de Lamy and Thompson's. Beurré Bosc varies with the season. These (except Beurré Bosc) are grown as pyramids and standards.—L., *Cheshire*.

ORANGE CULTURE.

We cannot give you ("M. P.") better information than is contained in the following extracts from a paper written by Mr. Rivers and read at the International Horticultural Congress held in London in 1866, and which was published in the "Report of Proceedings":—"The difference," says Mr. Rivers, "between Oranges freshly gathered from the trees and the very finest imported is most remarkable; there is a crispness and fine aroma in Oranges freshly gathered difficult to realise unless they are promptly compared with imported fruit. They are indeed a luxury, and as such will be cultivated ere long in every good garden. The houses best adapted for their cultivation are the large span-roofed, 24 feet wide, 6 feet high at each side, and 15 feet high in the centre. A house of this size will require eight 4-inch hot-water pipes, four on each side, as artificial heat is required all the year to ripen Oranges in one season perfectly. A smaller span-roofed house, 5½ feet high at each side and 12 feet high in the centre, heated by four 4-inch hot-water pipes, two on each side, is almost as eligible for Orange culture as one of the larger size. A house of these dimensions, with a central path, and a border on each side planted with Orange trees, would form a pleasant and productive Orange garden; but to form an Orange grove, so as to have trees of fine growth and to give abundant crops, the large house must be resorted to. From the experience I have gained I firmly believe that no conservatory, no Orchid house, nor greenhouse, is half so beautiful or interesting as an Orange house constructed on the principles I now advocate, and provided with fixed roofs, rafters 24 inches apart, glazed with large pieces of glass, and admitting abundance of light, so that in December, when the trees are covered with their golden fruit and many of them showing their snow-white perfumed flowers, the scene is indeed enchanting, and is enhanced by the agreeable temperature, which need not be higher than from 50° to 60° Fahr. (10° to 15° Cent.) in cloudy weather. It is not frame heat in winter that ripening Oranges require, but an even agreeable temperature such as is experienced in the Azores during that season of the year. The houses above mentioned should have side ventilation as in Orchid houses—viz., an opening on each side of the large house 2 feet wide, for the smaller houses 1 foot wide; these openings should be in the centre of each side, and shutters of wood or sashes employed to close them, the latter of course being the most agreeable. The cultivation of dessert Oranges in pots or tubs is very simple. The compost they require consists of equal parts of peat, loam, and manure thoroughly decomposed; the

two former should not be sifted, but chopped up with the pieces of turf and roots so as to form a rough compost. The trees will grow in this freely and bear abundantly, but they should have gentle constant root heat. This is best given by enclosing hot-water pipes in a shallow chamber of bricks, and placing the pots on a flooring of slates or tiles forming the roof of the chamber. One of the most charming and prolific of dessert Oranges is the Tangierine; the tree has small leaves, and seldom attains a height of more than 7 feet even in North Africa. Its most valuable quality is its early ripening, so that in October, just as the late Peaches and other soft fruits are over, this luscious little fruit is ready for the dessert. And when freshly gathered no fruit can be more gratifying or delightful, as its aroma is so delicious and its juice so abundant, in this respect offering a pleasing contrast to those imported from Lisbon in November and December, the flesh of which is generally shrunk from the rind instead of being ready to burst as is the case with those plucked from the tree. They should, in common with all home-grown Oranges, be placed on the table with some leaves adhering to the stalks, thus showing that they have not made a voyage."

WHAT CONSTITUTES A GOOD EXAMPLE OF AN UNPROVED NEW GRAPE?

I NOTICED an announcement in the Journal stating that the prizes offered for the three single bunches of Golden Queen at the Crystal Palace were withheld, because they were not considered good enough. It appears that three prizes of £5, £2, and £1 respectively were offered by the raiser for the best three bunches, but these liberal prizes have failed to bring out more than three competitors, and none of the samples are considered excellent, and the prizes are withheld. The donor of the prizes and holder of the stock of the new Vine, while holding out the inducement to gardeners to buy his Vine and compete for his prizes, attaches no conditions, so far as I am aware, to his offer; but for all that, when the competitors come forward in good faith on their part they are told their samples are bad, and that they must go without the prizes. Is this fair and honourable, may I ask? and further, may I inquire by what standard of excellence as regards the Golden Queen were the three bunches judged? or, in other words, was it the fault of the growers, or the fault of the Grapes, that the bunches were in such "bad condition?" In my opinion the action of the Judges, or whoever was instrumental in withholding the prizes, has not improved the prospects of the Golden Queen. One can understand judges withholding a prize from a bad sample of Black Hamburgs or any other Grape of known excellence, but not in the case of a Grape that is on its trial for the first time; for I hold that it is no safe guarantee of its excellence generally that the raiser of the Grape may have produced fair samples of it himself. What new Grape, good, bad, or indifferent, that has been raised within the last twenty years has not been sent out as all that was excellent by the raiser, but which under general culture has perhaps turned out to be worthless? Permit me to say that I am not a disappointed exhibitor, nor was I at the show. I only gather my impressions from the reports.—A GRAPE-GROWER.

FLOWER GARDEN NOTES.—No. 1.

A COLD spring; spring flowers late in flowering and for the most part of short continuance. Primroses were an exception, flowering grandly, but bulbous plants though fine were soon over. The late frosts cut off to the ground such succulent plants as *Dieleytra spectabilis* and injured the flowering stems of *Spiræa japonica*.

Summer bedding plants were, owing to the cold during the early part of summer, planted out late, and in most instances in a backward condition. *Calceolarias* put out in April suffered severely, the frosts early in May cutting off many plants to the ground and damaging all more or less. They recovered, however, famously, breaking strongly from the stems, forming stocky plants by the early part of June. One-half of the plants—about a thousand—were at that time moved with good balls, well watered, all going well until the latter part of July, when a plant here and there showed by the flagging foliage evidence of disease. The disease appeared before the cold and wet, and continued its ravages with the rains. The infected plants wholly succumbed to the disease, the fungus attacking the stem at its junction with the soil or a little below, and destroying the plant root and branch. Though the disease

only showed itself in a few plants at first it spread rapidly, plants adjoining those infected were quickly contaminated; a diseased plant showing itself in a line or mass, when all or a majority of the plants in the infected line or mass became diseased. This disease is certainly contagious, for out of twelve detached lines or masses five only have no diseased plants. In no case is the fungus confined to the plants first showing evidence of its attacks, but has spread and is spreading (September 20th) to others. It is remarkable that the plants left where first planted have no disease, and the soil in which the diseased plants are growing is not nearly so heavily manured as that of the healthy plants.

Calceolarias are not much valued now-a-days, yet in their season and colour there is nothing to equal them, especially the yellows, in contrast with Perilla or Beet. We can have yellow foliage in place of yellow flowers, yet flowers are indispensable, none affording yellow so well as these.

Tagetes signata pumila has done grandly, growing finely and blooming profusely. Its colour is at best a dirty yellow though it is very useful, its foliage being so neat, the whole a dense close mass, and where *Calceolarias* do not succeed is a good substitute.

Lobelias have done well, and notwithstanding that we have a great many varieties of the *speciosa* section there is none better than the species when a true stock can be obtained, and the plants come quite true from seed, doing away with much labour and saving room for tenderer plants. Seedling plants endure drought much better than plants from cuttings, and flower more continuously to a later period.

Alternantheras have been a complete failure as they have ever been here, for though any amount of moisture is borne by them it must be accompanied with warmth, or the plants decrease instead of increase in size.

Succulents have enjoyed the wet, but the wet for weeks completely obliterated the hues of flowers; and ornamental-foliaged plants have grown well, except *Iresine*, which requires heat as well as wet. Beet was never, perhaps, finer nor better coloured.

Pelargoniums have been a failure, the best being *Waltham Seedling*, *Vesuvius*, and *Glow* in scarlets; *Master Christine* in pinks, though *Christine* has stood well, not going to seed as is its wont; and in whites, *White Clipper*. *Prince Silverwings*, *May Queen*, *Bright Star*, and for growth *Golden Circle*, have been good in the variegated section.

Flower gardening as I have seen and experienced it in the north has been a complete failure. What brightness there has been was afforded by foliage. Plants cultivated for their flowers have not done at all well. Notable exceptions are *Violas*, which have grown splendidly and bloomed freely; the masses of blue produced by *Blue Bell* and the yellow of *Lutea grandiflora* are really pleasing to behold in the midst of so much greenery, which no one need complain of this season as wanting to relieve the gorgeous glaring of flowering plants. Colour as afforded by flowers has been of a very meagre character; and though foliage colouring is all very well in its way, it is in seasons like this that soft hues and neutral tints need the richer glow of flowers to heighten their effect.—A.

NOTES AND GLEANINGS.

SIR HENRY SCUDAMORE STANHOPE, Bart., writes to us from Holme Lacy, Hereford, that the hurricane on the 14th inst. has done great damage:—"The fine old Tulip Tree is a perfect wreck, as well as the *Liquidamber* and *Deciduous Cypress*. The havoc among Oaks and Elms is dreadful; magnificent round trees are torn up by the roots in every direction, and damaged trees are innumerable. It will take a considerable time to clear the grounds of limbs and boughs." We regret this very much, for the trees referred to are, or were a week ago, grand ancestral ornaments.

—THE *LAPAGERIAS*, especially *L. alba*, now flowering on the roof of the entrance corridor in Messrs. Veitch's nursery at Chelsea, are highly worthy of inspection, as is also the large and healthy young stock of these deservedly popular climbers. Amongst the more notable plants now in beauty in the Orchid houses are several choice *Cypripediums*. *C. Sedeni* is proving its great decorative power, both by its exuberant growth and numerous and richly-coloured flowers. *C. Schlumii alba* is in lovely condition. *C. selligerum* is remarkably fine, as also are *C. uryandrum* and *C. Harrisianum*. The varieties raised in this nursery are not more noteworthy for their intrinsic beauty than for their free-growing and flowering properties.

Several other Orchids are also flowering. In the intermediate house the almost ever-flowering and ever-beautiful *Rhoddendron Taylora* attracts notice, and the incomparable collection of *Nepenthes*, *Cephalotes*, *Droseras*, and insectivorous plants are in superb condition. It is an advantage to cultivators that many of these extremely singular and withal beautiful plants are not by any means difficult to manage, and only require a comparatively cool temperature.

—THE WEATHER in the south of Scotland, a correspondent writes, has been very fine from the 6th of September to the 9th of October, when it came on very wet, and has continued showery ever since. The Corn crop is nearly all secured, but Potatoes in many places are not worth lifting owing to disease. Grapes coloured well during the month of fine weather.

—At last Mr. Bull's new *DRACENA GOLDIEANA* is announced for distribution. "Not distinct enough" is the verdict often passed on many new plants, but it cannot be applied to the plant in question. It is distinct, remarkable, and beautiful—a plant to be obtained and cherished by all who desire their collections of fine-foliaged plants to be in the greatest degree attractive and complete. It has contributed powerfully to Mr. Bull's success in the classes for new plants at the chief exhibitions at home and abroad. The effect of the collection at Chelsea, the broad fleshy foliage with zebra-like markings, is striking and unique. As seen in the condition in which it is produced at home none can dispute the novelty and great decorative excellence of this *Dracena*. A few attractive Orchids are now flowering, such as *Oncidium varicosum*, *Rogersii*, *tigrinum*, and *Marshallianum* (a large importation of the latter having been received, one variety of which is very distinct and fine), *Lælia marginata superba*, *Dendrobium formosum giganteum*, and *Odontoglossums*. A considerable addition is about being made to the nursery, Mr. Bull having purchased ground near to Cremorne whereon Messrs. J. Edmonds and Son, Lillie Bridge, Fulham, are about to erect eighteen span-roofed houses each 60 feet in length.

—LAST year attention was directed to the mode of growing *EUPHORBIA JACQUINÆFLORA* at Wimbledon House by planting a row of plants close to the back wall of the pit in which the Pines were plunged and training the *Euphorbias* to wires, thus forming a hedge reaching from the bed to the roof—a brilliant hedge it proved—at the back of the Pines. The same plan is adopted this year. A few of the old *Euphorbias* have been permitted to remain; but it is clear that young are better than old plants for this mode of culture, hence nearly all the plants now forming the hedge were struck from cuttings in the spring of this year. The plan adopted is altogether so valuable—yielding as it does thousands, even armfuls, of brilliant sprays during the winter without occupying space which could otherwise be employed—that it is recommended to all who have the means of carrying it out. Not the slightest harm is done to the Pine plants by planting the *Euphorbias* at the margin of the pit; indeed, the Pines, which are now planted out, are finer and more promising than ever. The visitor scarcely knows which to admire most—the sturdy and exuberant Pines or their remarkable background of *Euphorbias*.

—WE learn that Mr. F. Smith, late gardener to Lord Cloncurry, Lyons Hazelhatch, has been appointed gardener to Sir Charles Coote, Ballyfin House, Maryborough, Queen's County, Ireland.

—THE ORCHID HOUSE in the Victoria and Paradise Nurseries, Holloway, is now particularly bright and attractive. The plants in flower are *Lælia Perrini* (very fine), *Dayana*, *præstans* and *cinnabarina*; *Maxillaria nigrescens*; *Masdevallias ignea* and *Harryana*; *Dendrobium chrysanthum* and *formosum giganteum*, the flowers of the latter having continued fresh for upwards of six weeks; *Pleiones lagenaria*, *maculatum*, and *Wallichianum*, very beautiful; *Sophranites cernua*; *Saccolabium bigibbum*, a little gem; also *S. Blumei*; *Vandas Batemanii*, *suavis*, and *tricolor*; *Oncidium varicosum*, *Rogersii*, *crispum*, *pulvinatum*, and *tigrinum*; *Odontoglossums crispum*, *Reichenheimi*, *Lindleyanum*, and *grande*; *Cattleya Loddigesii*; *Aërides suavisimum*; *Cypripedium Harrisianum*; *Zygopetalum maxillare*; and *Warcewiczella quadrata*. The plants not in flower are also attractive by their cleanliness and excellent health.

—WHEN it is considered that a chief standard of excellence in a *DAHLIA* is the handsome form and entire doubleness of the flower it may savour almost of retrogression to recommend varieties with single flowers, yet we do not hesitate to speak strongly in favour of two single varieties (a yellow and a

scarlet) which have been flowering—indeed, are flowering still—in the nurseries of Messrs. Veitch at Chelsea. The effect of the two rows of plants is very striking, the thousands of small well-formed flowers imparting a distinct and attractive feature to the plants. The plants are dwarf (about 3 feet high) and bushy in habit; the foliage, like the flowers, is small. For beds or borders in pleasure grounds—for groups, such as large bed or lines in public parks—these single floriferous miniature Dahlias are especially suitable, and would afford an agreeable and attractive change from the double varieties—indeed, from all autumn-flowering plants. When a white variety is forthcoming a trio of great decorative value will be produced. The flowers when cut are excellent for vase, church, and festival decoration.

—The *Ontario Farmers' Advocate* recounts the following BENEFITS WHICH THE BIRDS ACCOMPLISH. The swallow, swift, and night-hawk are the guardians of the atmosphere; they check the increase of insects that otherwise would overload it. Woodpeckers, creepers, chickadees, &c., are the guardians of the trunks of trees. Warblers and flycatchers protect the foliage. Blackbirds, thrushes, crows, and larks protect the surface of the soil; snipe and woodcock the soil under the surface. Each tribe has its respective duties to perform in the economy of nature; and it is an undoubted fact that if birds were all swept from the earth man could not live upon it, vegetation would wither and die, insects would become so numerous that no living thing could withstand the attacks. The wholesale destruction occasioned by the grasshoppers which have lately devastated the West, is undoubtedly caused by the thinning-out of the birds, such as grouse, prairie hens, &c., which feed upon them. The great and inestimable good done to the farmer, gardener, and florist by birds is only becoming known by sad experience. Spare the birds and save your fruit. The little corn and fruit taken by them is more than compensated by the vast quantities of noxious insects destroyed. The long-persecuted crow has been found by actual experiment to do far more good by the vast quantity of grubs and insects he devours than the little harm he does in the few grains of corn he pulls up. He is one of the farmer's best friends.

—An American contemporary says that J. R. Young, jun., of Virginia is probably the largest STRAWBERRY GROWER in the world, he having picked this season 375,000 quarts from 135 acres of land, nine-tenths of which are of Wilson's Albany variety; 1700 pickers was the greatest number employed any one day. His average product is a fraction over 2000 quarts to the acre, yet the average crop of all the land cultivated in the vicinity was 1400 quarts per acre.

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

FRITILLARIA DASYPHYLLA AND *F. ACMEPETALA*.—"These are two Fritillaries of which living plants have lately been brought for the first time from Asia Minor by Mr. Elwes, and liberally distributed. *F. dasyphylla* is a dwarf species, first gathered by Professor Edward Forbes, which belongs to the section with an entire style, and resembles in general habit *F. tulipifolia* of the Caucasus, figured "*Bot. Mag.*" tab. 5969. *F. acmepetala*, on the contrary, is a tall-growing plant, closely allied to *F. pyrenaica*, but with very different leaves. Both are plants of the mountains and perfectly hardy. *F. dasyphylla* was gathered by Mr. Elwes in light sandy soil between Moolah and Aidin, at an elevation of 2000 feet above sea level, and *F. acmepetala* in rocky woods in Caria."—(*Bot. Mag.*, t. 6321.)

ONCIDIUM EUXANTHINUM.—"A member of a small group of chiefly Brazilian Oncidia, of which the first described species is *O. bifolium*, a native of the Brazils, which differs in the racemose flowers, much smaller broadly obovate pseudobulbs, and shorter leaves. It is even nearer the *O. martianum* var. *bicolor*, *Lindl.* (*O. bicolor*, *Lindl.* in '*Bot. Reg.*' 1847, t. 66) in the racemose flowers, but that species has a solitary broad leaf, and very much narrower lateral lobes of the lip. Dr. Reichenbach describes the flowers of the original specimen as having greenish sepals and petals with brownish bars, but those of my specimens are of the same clear yellow as the lip, and the spots on the latter are of a clear red hue. The warts, &c., of the lip are not only variable in this genus, but most difficult to describe; in the present species they occupy a narrow area on the disk, and consist principally of a transverse row of tubercles and a prominent but small conical horn.

O. euxanthinum is a native of Brazil, whence it was imported by Messrs. Veitch."—(*Ibid.*, t. 6322.)

BUDDLEIA ASIATICA.—"A very common and graceful large shrub or small tree of Continental India, Burma, the Malay Peninsula, Cochin-China, and Java, advancing north-westwards to the Indus, ascending to 4000 feet in the Himalaya, and to 6000 in the Nilgherri Hills, but curiously enough absent from Ceylon. Two forms of it are common, differing much in the flowers, which are very variable in size and the length of the tube of the corolla; one form has a salver-shaped corolla, with orbicular spreading lobes; the other has much smaller flowers with short sub-erect corolla-lobes. The stamens in both are inserted near the mouth of the corolla-tube, not, as stated by Roxburgh, near its base.

"It is certainly remarkable that so very common, elegant, and sweet-scented a plant as this, which flowers for three months continuously in India, should not be in common cultivation; but it does not appear in the '*Hortus Kewensis*,' nor is it figured in any work published in England. For the specimen here described we are indebted to Messrs. Downie, Laird, and Co., who sent it in February, 1874."—(*Ibid.*, t. 6323.)

ALOE TRICOLOR.—"Perhaps it may be, as Mr. N. E. Brown has suggested, the *A. arabica* of which the foliage alone is described by Salmdyck (see *Kunth, Enum. vol. iv. p. 525*). But it is clearly not the plant originally named *arabica* by Lamarck, which is founded on the Arabian *A. variegata* of Forskahl. Our present plant flowered for the first time in the Kew collection this spring. We received it from the Oxford Botanic Garden, and they had it, labelled as a Cape species, from Mr. Justus Corderoy of Blewbury."—(*Ibid.*, t. 6324.)

MICROSTYLIS JOSEPHIANA.—"A very curious novelty, resembling a good deal the African genus *Lissochilus*, differing in size and habit from the majority of species of *Microstylis*, which are for the most part weedy green-flowered plants of no interest to the horticulturist. It is a native of the tropical forests of the Sikkim Himalaya, where, however, it escaped the notice of all observers previous to the late Dr. Anderson, F.L.S., then Superintendent of the Calcutta Botanical Garden, who discovered it in 1863, and sent plants to the Calcutta Garden. These flowered in April, 1867. It flowered at the Royal Gardens of Kew, in May of the present year, from plants sent by Mr. Gamnie, Superintendent of the Sikkim Cinchona Plantations, to whom the Gardens are indebted for numerous and very valuable contributions of Sikkim seeds and plants. It is named after the editor of this magazine in recognition of his services to orchidology when exploring, for the first time by any botanist, the primeval forests of the Sikkim Himalaya."—(*Ibid.*, t. 6325.)

ARTHROPODIUM NEO CALEDONICUM.—"This is a native of New Caledonia, recently introduced into cultivation by Messrs. Veitch. It is interesting geographically as extending to New Caledonia the range of another of the characteristic Australian and New Zealand genera. Its nearest ally is *A. candidum*, *Raoul*, of New Zealand, and the other five or six species besides these two are all confined to Australia and New Zealand. Whether it will be hardy about London still remains to be proved. The plant flowered with Messrs. Veitch in May, 1877."—(*Ibid.*, t. 6326.)

A ROSS-SHIRE TRADITION.

A TRADITION prevails in Ross-shire that it was foretold by the last preacher in a kirk at Loch Carron, now ruined, that after his death an unknown tree should spring up where his pulpit was, and that when it reached above the wall there should be a European war. A tree of which the like is not known in the neighbourhood has grown on the spot. This year for the first time the top is above the wall. I send you a sprig and berries. Can you tell me what tree it is?—J. BRODIE INNES.

[The tree is *Sambucus racemosa*, Red-berried Elder, introduced by Gerard in the year 1596. No genus has more superstitions connected with it than has the *Sambucus*.—*Ens.*]

CARPET BEDDING.

EMBOSSED bedding, jewel bedding, tapestry bedding, mosaic bedding, and artistic bedding are terms which have been applied to the more advanced types of garden decoration wherein low-growing plants remarkable for their striking habits and attractive foliage have been exclusively employed. There has, indeed been a general ransacking of the vocabu-

lary in searching for terms peculiarly descriptive of this mode of embellishment. It will suffice, however, to refer to it under the "old familiar name" of carpet bedding, leaving each to choose the special appellation he deems most appropriate.

Much has been written for and against this mode of garden ornamentation—some considering it not only as being the most advanced but the most excellent expression of decorative art, while others denounce it as being harsh, formal, and unnatural.

The mode of decoration adopted in gardens is simply a question of taste, and taste in flowers, as in dress, varies. If mistakes have been made in the arrangements of colours in the garden they have not been so numerous and so flagrant as to justify the system of carpet bedding being described by a contemporary as "glaring." Formal it is; indeed, formality is

its essence. If it is not formal (exact) it is nothing. But over-colouring has certainly not been the characteristic of those beds which during the present season have had the greatest share of public approval.

Carpet beds may be and are arranged in the most quiet of colours, of which the accompanying engraving from a photograph of the central bed in Mr. Ralli's garden at Clapham Park affords a sufficient example. When a bed is planted quite level—that is, in the true carpet style—a diagram affords a fair idea of its effect, but when the soil of one portion of the bed is depressed and another part elevated something more becomes necessary to enable the appearance of the bed to be adequately understood. It is not asserted that the illustration is of the best carpet bed ever seen, but it is submitted as one of the most distinct and pleasing that has been arranged in a

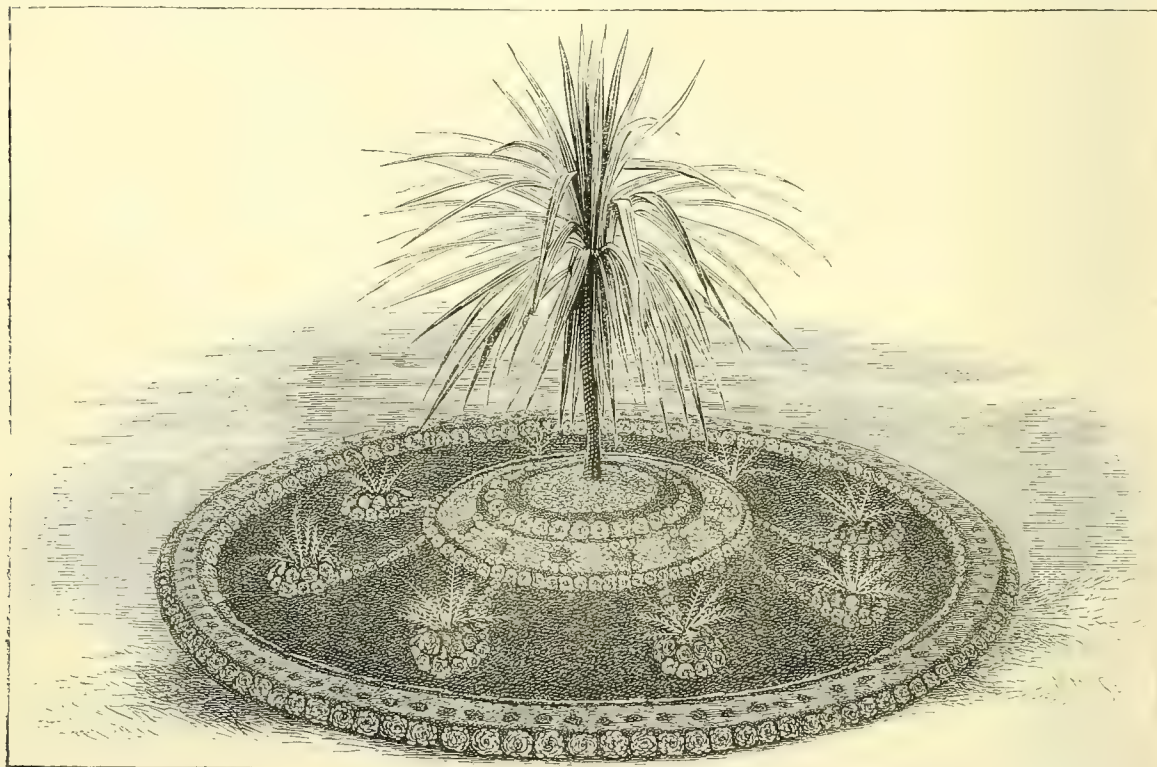


Fig. 60.—CARPET BED AT CLEVELAND HOUSE.

private garden. It is not a bed that is appropriate to any garden, nor are the means of every garden such as to enable this mode of embellishment being carried out successfully. It is submitted as an example of chasteness in colouring and excellence in execution, and also because the great majority of the plants employed in it are comparatively hardy. The planting of this bed has been described as follows by a visitor who inspected it in August:—Fancy a huge hollow and rather deep saucer-like dish 12 feet across with a rim a foot in diameter, and in the centre of this dish a raised mound, formed after the style of an inverted bowl, this mound being about 3 feet across the top and proportionately wider at the base, and about 3 feet high. Such is the ground-plan of the bed, and now for the mode of decoration. In the centre of the mound is an elegant specimen of *Dracaena indivisa*, rising from a circular base about 2½ feet in diameter of *Mesembryanthemum cordifolium* variegatum; this is surrounded with a ring 2 inches in diameter of the green *Sedum Lydium*, followed by a circle of *Echeveria secunda glauca*. Next comes a broad band about 8 inches wide of *Sedum glaucum*, in which at regular distances are richly berried clusters 6 inches across of *Nertera depressa*, each plant of *Nertera* being encircled with very small plants of *Echeveria secunda glauca*. Next comes a narrow belt round the mound of *Alternanthera amena*, margined with *Echeveria*. At intervals in this outer circle eight chains of the same plant descend down the sides of the mound, terminating in the lowest part of the bed—the "dish" of the

saucer, each chain encircling a miniature mound of succulents out of which springs a small plant of the silvery *Chamaepuce diacantha*. There remains now the groundwork decoration of this design—the whole interior of the saucer and sides of the central mound. It is simply planted and densely covered with the dwarf emerald green *Sedum* above mentioned. There is yet the rim of the saucer to be noticed. It is a foot or more in width and rather rounded. The inner and outer circles are *Echeveria secunda glauca*, next two narrow circles of *Alternanthera amena*, the centre of the rim being a band 6 inches wide of *Sedum glaucum*, dotted every 3 inches with small round plants of *Nertera depressa*. The bed is as striking in appearance as it is original in conception and artistic in execution. Every part is excellent, and, being chiefly of neutral colours enlivened with the brilliant bead-like clusters of *Nertera*, the more and the longer it is looked at the better it pleases.

The bed is a worthy example of carpet bedding and of Mr. Legg's taste.

THE POTATO DISEASE *versus* GAS LIME.—At p. 288 "W. G." says, "Dress your land well in December or January with gas lime, and you will have no disease." We make our own gas here, and have therefore plenty of gas lime. Last autumn one of the kitchen-garden quarters had a good dressing of it. This spring the same piece was planted with early Potatoes. When lifted not more than one in ten was free from disease.

I am not acquainted with anything that will prevent the Potato murrain in a wet season.—A KITCHEN GARDENER.

NIEREMBERGIAS AND THEIR CULTURE.

ELEGANCE of growth, pleasing habit, and chaste yet conspicuous flowers, are combined in the Nierembergias—qualities which certainly render them attractive, and also (since fashion now permits it) popular. During that period in English flower gardening known as the massing epoch many plants of quiet beauty passed into comparative obscurity and had to give place to others possessing qualities of a more imposing character—such as would add colour or grandeur to a formal

design. Since that time the public taste has changed, and not only changed but improved. Bright-coloured free-flowering plants can never be dispensed with for decorative purposes; but it is becoming more and more recognised that there are other and less gorgeous plants which are capable of contributing to the attractiveness of a garden. Amongst these are the Nierembergias—a small genus of plants allied to Petunias; they might indeed be almost regarded as miniature Petunias, both belonging to the same natural order, Solanaceæ.

The Nierembergias were named in honour of John Eusebius Nieremberg, a Spanish Jesuit, and author of a history of Nature. The species which is perhaps best known and most extensively cultivated is *N. gracilis*: it is a valuable edging



Fig. 61.—NIEREMBERGIA RIVULARIS.

plant for flower beds, and has been so employed effectively in Battersea Park during the present season. It is also highly attractive when grown in pots or baskets for greenhouse decoration. Plants taken up from the beds in autumn and potted flower early and profusely during the following season. Cuttings strike readily, and may be wintered in cold frames and protected in severe weather. *N. filicaulis* (lilac), and *N. calycina* (white), are also familiar, and are distinct and pleasing when cultivated in pots.

A species of more recent introduction and less seldom seen is *N. rivularis*. We are indebted to Mr. Ware of Tottenham for the accompanying illustration of this plant. It is also figured in the "Botanical Magazine," and is described as a beautiful little species, a native of La Plata, whence it was introduced by Messrs. Veitch of the Royal Exotic Nurseries, Chelsea, with whom it flowered in July, 1866. It was discovered by the late Mr. Tweedie upwards of thirty years ago. This collector describes it as a most lovely and fragrant plant, abound-

ing by the sides of the Plate river, and only within high-tide mark, its flowers rising above the dwarf grass which grows in similar situations in such profusion that the plant is discerned from a great distance. The flowers, which are yellowish-white, are sometimes tinged with rose colour. It roots freely from its slender stems. It is a charming sub-aquatic plant, suitable for cultivating in pots or in moist places in the flower garden during the summer.

OSBORNE HOUSE.

(AN AMERICAN HORTICULTURIST'S COMMENTARY.)

I HAVE mentioned the Queen's private residence at Osborne House in the Isle of Wight as one of the small but beautiful gardens with which England abounds. It was to me especially interesting, as showing how rapidly trees could be made to grow into beauty, or even utility if one were disposed to look on planting as a money investment alone. There are, of

course, many trees now which were growing on the estate when it belonged to Lady Isabella Blatchford, of whom Queen Victoria purchased it; but the major part of the trees now growing here were planted by Prince Albert or since his time, and numbers are over 50 feet high and 6 feet in circumference. Cedar of Lebanon, which we may with justice call a slow-growing tree, are many of them here over 40 feet high. A large number of our Californian Conifers, of which Prince Albert was very fond, are also of about the same height, and many of them I saw in great beauty for the first time. The *Cupressus macrocarpa*, for instance, here about 30 feet high, forms one of the most beautiful sights that a human eye could desire to look upon, and there are some very fine specimens of *Libocedrus decurrens*, which I may say here I find, all through England, "*Thuja gigantea*," though the error has been shown over and over again in American literature, and though anyone can see by the very look of the plant, if they were disposed to be inquisitive, that it is not a *Thuja* at all. If you ask them for *Libocedrus decurrens* they "do not know such a plant." The real *Thuja gigantea* they call *Thuja Craigiana*.

A very large number of the trees—enough to make quite an arboratum by themselves—have been planted at different times by celebrated or distinguished persons, as memorials of their visit to Osborne, or as commemorative of the birthdays of the Queen's family. The names of the planters and the occasions are neatly painted on "labels" at the foot of each tree. Some of these, like some of the planters, have had misfortune in their career and looked unhappy; but the majority were doing very well and must be a great source of pleasure. I envied especially the Princess Helena, who on May 25th, 1855, planted an *Abies bracteata* which was now 30 feet high. The branches lay flat on the ground, and the tree made a regular cone. These branches on the ground measured 55 feet round. The general appearance of the tree at a little distance reminded me of some of the beautiful Douglas Spruces I had seen in their native places of growth, but the leaves are very long, and I should judge a *Torreya* when old would look something like this. I wondered when I saw it whether in our own country we had in cultivation so pretty a specimen of our own native tree. The part where these trees are mostly growing is separated from the other parts of the ground by a dense hedge of Laurels and Laurustinus; and this makes a shelter from the stiff sea breeze very favourable to evergreen coniferous trees brought from our Pacific shores, though the hedge itself was planted to give a good landscape gardening effect to the grounds. There are some pretty specimens of our Mammoth Tree, *Sequoia gigantea*, on the grounds, and some that have suffered from the same disease which has not left us one good specimen in the Eastern Atlantic States, indeed hardly a specimen of any kind at all. Whenever I would ask the tree-growers of England or France about this disease they would answer that they knew nothing of it, and yet I saw traces of it everywhere in both countries. It is probably a species of *Æcidium*, a small parasitic fungus. It attacks the lowest and weakest branches first, and thrives best when the weather is warm. In our country with so much summer heat it progresses upwards rapidly enough to destroy the whole plant before winter sets in; but in these European instances it only browns some of the lowest branches, though in a few cases I saw half the tree destroyed. When I would call attention to it I would be told it was "only something in the soil," although a close neighbour, a little more shaded, perhaps, in the same "soil" would look quite sound.

There is a long avenue to the main road planted by Prince Albert with a double row of trees. The first is of *Araucaria imbricata*, the Chili Pine, alternating with Evergreen Oaks, and the back row of Cedars of Lebanon and Evergreen Oaks. There were thus three chances of some one doing well, so that the other two could be cut away in time. All have done well, and there has been nothing cut away yet. Our readers, of whom only a few have seen the *Araucaria* in greenhouses, can have no idea of the peculiar effect this tree has on the English landscape. It is quite hardy in that country, and we meet with it everywhere. Every garden has its beauty spots formed by some combinations or other; but I do not know that I saw a more beautiful piece of garden art in England than was here with an *Araucaria* for the chief centre. It was on a mound a few feet high, and behind the *Araucaria* were two beautiful specimens of the Californian *Cupressus macrocarpa*, the dark and feathery edge of which, seen on each side of the *Araucaria*, made a sort of perspective shadow to it, rounding it off, as it were, in a most beautiful manner. In the fore-

ground of the mound, and in front of the *Araucaria*, were pieces of fossil wood and rock, and in among them our *Yucca gloriosa*. Around the base of the little evergreen-crowned mound a narrow gravel walk swept, and on the other side of the walk, on each side, masses of *Yucca filamentosa*. The *Araucaria* itself has, as those who know it recognise, a sort of fossil-like look, and the *Yuccas* are scarcely less geological in their expression. The whole made a happy union and harmony such as we rarely see in landscape gardening. A seat was arranged where one could sit and enjoy this very pretty feature, as I did for some time. Those who know Queen Victoria tell me that she has a keen relish for natural beauty such as this. We often see trees, especially evergreens, clipped and sheared into many strange if not really hideous forms; but there is no tree-shearing on these grounds, except where some object is to be gained by it beyond the mere manufacture of a monstrosity. One of these usefully sheared plants is a Myrtle against a wall. This Myrtle covered the whole surface of the wall except the coping, and was sheared so close and regular that one might almost imagine a painter had wholly covered a board with green foliage. The whole was regularly about 8 inches deep.

In many parts of England the *Pyracantha* and *Cotoneaster* are grown against walls in the same way, and when kept thus neatly sheared are remarkably pretty—quite as much, if not often prettier, than Ivy. On a large heavy wall here our *Magnolia grandiflora* is grown and neatly trained. Of course this tree is "hardy" in England, but it mises our summer heats, and this wall treatment supplies some of this. Here, with its very sweet white flowers and fine evergreen leaves, it was very highly prized.

One of the matters which I have been struck everywhere in England, and which I find to prevail even here in this royal place, is the simplicity of the materials out of which the best garden effects are made. In front of some of the Queen's rooms is an extensive geometrical flower garden, made-up of numerous beds for flowers in masses, with gravel walks between. In many of these gardens the borders may be of Box; but here a narrow edge of what appeared to be costly stone surrounded each bed. The effect was very pretty; but a close examination showed the stone to be only painted wood. Near by is a very beautiful garden, made up in the grandest style, for in the centre is the celebrated Greek Slave, which, as a work of art, drew so much attention at the first and great World's Fair. The fountain basin is of polished granite; but soon after we pass out into real nature under an arbour of Roses and Vines. At a little distance is an alcove made in a terrace wall, and we are struck with the apparent richness of the work and the general choice appearance of everything in it. But as we get closer we see that the pretty flowers and foliage apparently carved-out are only sea-shells fastened on the wall in that way, and the whole washed with stone-coloured cement, and the massive ebony work is but polished coal. About these very artificial garden parts are, in excellent taste, the more artificial-looking plants, and the different kinds of Palm enter largely into the beautiful effects. Some of these Palms must be very valuable from their great size. Here, for instance, is a *Chamærops humilis* about 10 feet high, and with numerous young ones about it, so as to make a complete mass of Palm leaves. Though even the Orange grows here so well that there were some fruiting on the garden walls, it is thought best to protect the Palm in winter a little, and it is boarded over.

As I have said, the Queen prefers natural beauty to sheared trees, except when such shearing harmonises with artificial work, and in the square in which is one of the geometrical gardens are four sheared Bay trees in each of the four corners. They are of huge size, and here their effect is good. Leading down to the sea is also a wide gravel walk on each side of which are sheared Portugal Laurels, which also have a good effect. Around the palaces in Paris are huge Orange trees which have been kept in large square tubs for many years. They are all sheared, or rather trimmed with knives, so as to be all exactly of one size. If one could look along the top of a hundred of them in a line, no one would show a quarter of an inch higher than the others. These, during the summer, in France, are set out in their tubs alongside the walks at equal distances. But they cannot well have Oranges at Osborne; but they have Portugal Laurels in huge tubs, looking for all the world like these French Orange trees, as they are treated and placed in the same manner. But they appear grander, for the tubs in which they are growing are very much greater, and the trees are larger in every respect. But the secret is explained when the reader learns that the tubs are never

moved. The tree being hardy, remains there winter and summer; indeed the tubs have probably no bottom, and the Laurels are really growing in the ground. Yet these neatly-painted tubs with globes on the four upper corners give all the grandeur of the Versailles Orange trees; and what is of more consequence to an American and an Englishman, at very little cost for all! The piece of landscape gardening connected with this tub-Laurel-lined avenue is a masterpiece of good art. There appear to be only two or three acres on each side of the avenue, but while one is kept flat and smooth, and relieved only by the groups of Conifers and other artistic trees, the other side has a rolling contour of surface, and has massive groups of deciduous trees to match with the heavy swells of ground surface. Yet so well is the long straight walk carried through that no incongruity between the scenery on his right and his left strikes even the most critical.

Here, as everywhere, the aim in bedding is to have some carpeting unique, and not a copy of someone else's work. One might write a volume of what he sees in this respect, but it would be out of date by another year, as the object is to have new styles, as our ladies have new bonnets. In these grounds, coming to a place where some roads cross, there are beds in the angles in which the plants are arranged as playing cards. The hearts, clubs, and diamonds are outlined chiefly with a sort of Golden Stellaria, or perhaps it may be a Cerastium and Alternantheras. I remember, however, that the diamond was made of Echeveria for the outline of the character, and the filling-in was of Golden Pyrethrum.

The vegetable garden is not large, the Queen having most of the kitchen wants supplied from Windsor. What is grown, however, has to be of the very best character, and everything looked well. Those who think that pruning injures trees would especially be struck by the healthy appearance of the wall fruits, which are here of immense age, having been grown here before the Queen bought the place. A pruned plant, of course, never has a large stem. The Osage Orange in our country, unpruned, makes a large stout tree in a few years—in hedges, cut back, in twenty years is no stouter than one's wrist. So here in this garden we have Pear trees trained to the walls and pruned annually that were yet of very large size. I measured the stem of a Glou Morceau which was 3½ feet round.

OUR BORDER FLOWERS—COMPOSITES.

THE family is an extensive one, and though not possessed of the attractive properties that many of our favourites are, yet there is something about them that claims our attention. In the estimation of some they may be termed coarse. We admit that, but we think they ought not to be cast to one side because some will persist in saying they are ugly. They may not now be in such estimation as some of them have been in days long past. Some of them belong to our own land, therefore we note them the more pleasantly.

Elecampane (*Inula* (*Corvisartia*) *Helenium*) is a large showy British plant, in possession of medicinal properties esteemed as a tonic, and still retained in *materia medica*; it is also said that from this plant the Vin d'Aunée of the French is supplied. Its virtues have been extolled by the older naturalists, as Dioscorides and Pliny, but in modern days it has fallen into disuse; but the plant still retains its aromatic and stimulating properties useful in case of indigestion and nervous disorders, yielding its qualities to spirits more readily than to water. Few of this plant are seen in cultivation, being uncouth. Any out-of-the-way corner seems good enough for them when met with; they are at home in most situations, but they like light, air, and sunshine. They are not particular as to soil. Any ordinary free garden soil will meet their requirements; stagnant places are injurious. Some of them are strong growers and are the better for being staked, or they get blown about with the wind and become unsightly. They are easily increased by division in the spring or autumn.

Inula *Oculus-Christi* is very desirable, and with a little care may be made a very attractive plant. In a choice border its large, deep orange yellow, Aster-like flowers always attract attention when well grown. It is a capital plant for exhibition. *Inula* *crithmifolia* (Samphire-leaved *Inula*), is frequently vended for Samphire, to which it bears a very striking resemblance. *Inula* *dysenterica* is often met with by our waysides in out-of-the-way places, often in large quantities, cheering us in autumn. *I. saxatilis* is a dwarf kind, and is desirable as a rock plant where variety is sought after, useful alike for pot and indoors. *I. suaveolens* is a little coarse,

but worthy of cultivation for the pleasing perfume it emits. *I. grandiflora* is from the Caucasus, and ought to have a place in all shrubberies. Many others of this extensive family might be enumerated, but their being so little known, and I fear less cared for, they remain amongst the neglected ones.—VERITAS.

PROTECTION FOR FORCED PLANTS.

[THIS subject, on which "J. A., Birmingham," seeks information, is an important one, and is judiciously discussed as follows by Mr. W. Hinds in "The Gardener."]

It would be difficult to name any other subject connected with forcing houses that is more in need of general reform than the one which gives the title to this article. The value of proper means of protection before and after plants are forced cannot be over-estimated from either a cultural or a pecuniary point of view, because we cannot expect plants or shrubs of any sort that are exposed to sudden fluctuations of temperature to remain long in good health and vigour unless they are carefully tended and nursed for some considerable time after it has been necessary to remove them from the conservatory or show house. This being so, I should think that if the matter were intelligibly laid before any reasonable employer, little objection could be taken to a small outlay in providing such inexpensive places as would prove valuable auxiliaries to forcing houses. Both sides of the question should be stated clearly, in order that the idea might assume the character of a profit-and-loss account, which I think would tend to remove any misconception as to lavish expenditure. In the first place it would be necessary to run up the annual expenditure on plants for forcing, taking into account the length of time that intervenes between the date of forcing and the time when the same plants would have sufficiently recruited themselves to undergo another similar ordeal without the means referred to. It is generally supposed that forced plants and shrubs have reinvigorated themselves after a season's rest, so as to make them eligible subjects for a like purpose the following year; but I doubt the general accuracy of such a statement. True, there may be cases where this rule applies, but they are few and far between, and are only to be found where suitable structures are provided for completing and hardening the growth that is made under the cloudy skies of an ordinary English winter before they are turned out of doors. When proper pits, or temporary erections of some sort, are not obtainable, there is no other alternative left but to place such things in a warm sheltered corner out of doors, which is a poor substitute for a glass structure. It is here the comparison can be made, and it requires no expert at arithmetic to calculate the difference in value between two sets of plants treated respectively in the way I have described. Look at those early-forced Rhododendrons, Azaleas, Prunuses, Deutzias, &c., crammed together like so many oxen in a truck, with sickness depicted in every limb, and half-developed leaves scorched or starved into premature decay, or, at all events, rest; for we know that "sudden chills" impede the feeding or supplying power of plants, and once healthy action between root and branch ceases to exist we can no longer expect healthy development for a future day. Thus it is that a premature cessation of growth is forced upon plants, only to be removed when the weather becomes genial enough to excite the growing power which was not exhausted by natural means, but had been suddenly checked by the unnatural agency of cold. This is what is called second growth, which means a disorganised system of plant-growing, a system which is fraught with danger to the plants themselves as well as to those in charge of them.

Now, it is not wide of the mark to contend that those who build forcing houses in quantity have plenty of means to build auxiliaries to them; and I think I may further suggest that no more profitable investment can be made than in securing proper provision for the maintenance of health and durability in plants. Looking at the matter in a purely commercial light the question resolves itself into one of money either way. If there are no plant-protectors there are more plants required each year, in proportion to the inadequacy of the protection, and *vice versa*; so that in reality the employer who sanctions a small expense in this way is the gainer in a few years. Assuming for a moment that anyone was desirous of erecting one or two convenient places for this purpose, the following is a very good plan: After selecting a suitable piece of ground in some out-of-the-way place which is warm and well sheltered from winds, a foundation of bricks, level with the surface of the ground, should be laid for say one, two, or three span-roofed pits, the

proportions of which should be shaped according to the material at command. The sides of the pits may consist of thatched hurdles, which should be made to slide in a groove made in the sill which rests on the brickwork. Any old sashes of equal length can be prepared at a very slight expense, and a skeleton framework on which to lay them will merely cost a nominal sum. In this simple way useful plant-protectors can be erected, and the little outlay expended on them will be amply repaid in the health of forced plants, and in the neatness and general good order of a place.

Nothing imparts a more rubbishy appearance to Peach and orchard houses than a glut of such things strewn about here and there without any apparent system in arrangement.

Portable plant-pits of this description are not only useful for hardening-off plants that are forced, but they are also invaluable for bringing forward such things as Lilliums of all sorts, or, indeed, any hardy greenhouse plants. In the autumn, again, what a relief to better-class houses to have such places to bring forward Chrysanthemums—a class of plants that suffer more from early housing and insufficient ventilation than any other we could name; and lastly, we may notice that anyone in possession of two or three of those pits may prolong the season of Chrysanthemum flowers, and store away all pots that are required for stock.

NOTES ON VILLA AND SUBURBAN GARDENING.

THE weather has recently been favourable for forwarding all outdoor operations, especially the storing of roots. Beet must be lifted very carefully and stored without receiving any injury to the tap root, or it will lose its colour in boiling; also, instead of cutting the tops off close to the root, give them a twist round in the hands, and sufficient will break off. The weather has also been favourable for tying Lettuces and Endive for blanching, and for the removal of others to frames for protection. These should be lifted with good balls of soil and placed thickly in cold frames, from which frost and wet are excluded. Frequently stirring the ground is beneficial to Cabbages, Spinach, and other crops; it not only destroys the weeds which spring up at this season of the year, but adds materially to the well-doing of the crops. Young Cabbage and Lettuce quarters should frequently be searched for slugs and a grub that burrows under the ground and eats the plants off just at the collar; and all blanks should be made good as often as they occur.

Cauliflowers raised from seed sown about the end of August will require the protection of hand-lights or frames to render them safe throughout the winter. The plants are now about the proper size for transplanting. Hand-lights are most useful protectors; nine plants may be placed in each, and remain until spring, when those in the centre may be removed, leaving the four corner plants. These with liberal treatment afford useful early heads, and the others can be planted out in suitable quarters for succession.

Potatoes which have been stored should be occasionally looked over, as one decayed tuber speedily affects many others. Onions which are well dried should be stored thinly, or perhaps there is no better plan to preserve them than the old-fashioned one of "ropeing" them, which is work that can be done during wet days. Clear away Bean haulm and other decayed and useless vegetation, in order that the kitchen garden may be made as enjoyable as possible.

Flower gardens now require a regular transformation; the remains of the summer bedding plants which are not required for store purposes should be cleared away and thrown to the rubbish heap, and the edges of the beds be neatly trimmed, the beds manured and dug, and the spring-blooming plants planted with all possible dispatch to allow them to become well established before severe weather is upon us. Double Daisies, both white and red, Wallflowers, Polyanthus, Pansies, Forget-me-nots, and the various *Silenes* are amongst the more hardy and useful flowering spring annuals. The plants must have been specially prepared for this purpose as advised in former calendars, and should now be strong and well established. *Orocucos*, *Snowdrops*, double and single *Anemones*, *Turban Ranunculuses*, *Tulips*, and *Hyacinths* are also suitable for spring blooming, while many of the hardy *Sedums* (now so extensively used in summer carpet bedding) are also useful as edging plants; and seedling plants of the *Golden Feather* can also be advantageously employed. In planting bulbs it will be necessary to use *Crocuses* and *Snowdrops* as front lines or for the margins of the beds. *Tulips* and *Hyacinths* are taller, and should necessarily occupy the centres or back rows, as the case may be. Where spring flowers are not planted the beds can be made to present a very cheerful appearance by planting small hardy shrubs which have been kept in the reserve garden. Small plants of *Aucubas*, *Retinosporas*, *Cupressuses*, *Hollies*, *Portugal Laurels*, *Box*, *Ivy*, &c., are all suitable for this purpose.

Hybrid Perpetual and climbing *Roses* are now in good condition for making cuttings, and if the tops are taken off and cut in lengths of 6 to 9 inches and planted thickly in rows on a warm border most of them will root. Place the soil firmly around them, and protect them slightly in case of severe weather.

The grass will not require mowing frequently, but wormcasts and leaves will be troublesome for some time to come, and the lawns will require to be constantly swept and rolled; roll walks also, to make all firm and solid.

Greenhouses are now tolerably full. Care should be taken to ascertain that the *Azaleas* and other hardwooded plants lately taken under cover have not suffered by want of water. If the interior of the ball is dry a good soaking in a pail of water will save much after-trouble. *Richardias*, *Spireas*, *Lily of the Valley*, *Dieleytras*, and other early forcing plants require potting from the open ground, where they have been growing throughout the summer.

Chrysanthemums now require protection, for whilst the warm days and dewy nights are beneficial to them, frost may come any night and destroy all prominent flower buds, and it is possible we may have a taste of the equinoctial gales, which will destroy in one night perhaps that which has taken months to grow. *Chrysanthemums* are generally late this season, but the buds appear very plump and even, so that though they may not be in time for the earliest-fixed shows, we may expect some good blooms. All training of specimens, standards or pyramids, must be finished forthwith, or the foliage will not have time to resume its natural appearance. Continue to supply the plants liberally with liquid manure, for it is while they are swelling their buds that extra support is needed. An ounce of guano to a gallon of water will help them considerably.—J. W. MOORMAN.

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

HARDY FRUIT GARDEN.

ON all the hardy trees the leaves have either attained the golden tinge of autumn or are rapidly doing so. Those in the open quarters fully exposed to the wind are speedily whirled off, but it is not so with *Peach*, *Nectarine*, *Cherry*, and other trees on the walls. If the leaves do not fall from such trees so rapidly as they ought a half-worn birch broom drawn gently up the branches will clear them off. See that all the branches are also nailed securely to the walls. We shall also look over all the trees in the open garden and do any pruning that is required. Trees grown on the dwarfing system are very apt to become overcrowded with wood, especially in light soils. It is very desirable that all superfluous wood should be cut out at the earliest opportunity. We do not find that the trees grow too much if the soil is heavy. Summer pruning is a good antidote for exuberant growth and deficiency of fruit buds, but we have found that in addition to this it is also necessary to prune the roots.

There are two objects to be attained by root-pruning: one is to cause the formation of fruit buds by checking the strong summer growth; the other is to stop canker should the trees show signs of this disease, which we fancy is caused by the roots running into unsuitable soil. In either case the object of the cultivator is to raise any descending roots nearer the surface, or, if this is not possible, to cut them, which will cause the formation of young fibrous roots; and if suitable fresh loam is placed round the roots they will spread laterally in all directions. We have sometimes, instead of cutting the roots all round the trees, done half of them one season and the other half the next. The check that the trees experience by having the whole done at one time deteriorates the crop for next season in some instances.

We shall as soon as possible go over the *Raspberry* quarter, and cut out all the old wood, and tie up the strongest growths which were made this season to the stakes where a stake is used for each stool. On one portion we have two wires strained, one above the other, to which the shoots are tied. This last plan is the best, as it allows the growths to be more regularly placed. It rather crowds the growths too much to tie up from four to six to a single upright stick; the other way they are arranged at regular intervals about a foot apart.

There are still a few of the trees from which the *Apples* and *Pears* have not yet been gathered, but we shall have them attended to very soon. The *Pears* that ought to ripen in October do not as yet show signs of doing so, and we fancy that some varieties will not ripen at all. The fruit is keeping very well that has already been gathered, except where it had been pecked by birds. They annoyed us very much this year, as not only *Pears* but a considerable portion of the crop of some sorts of *Apples* was damaged. Such sorts as *Cox's Pomona* and *Cellini* were the most attractive. We kept the birds from choice *Pears* on the wall by placing netting in front and fastening it securely at the top and bottom of the wall.

No delay should now occur in having plantations of *Strawberries* finished. If the work is not done this month the plants have but little chance to become established before the winter. We have kept the hoe at work between the rows of those plants

that were put out in August, the plants are now of large size and free from weeds.

Strawberry plants in pots are not unfrequently neglected at this season. If the roots become dusty-dry the plant does not show signs of distress, but it is a great mistake to allow the soil in the pot to get in this state. It is quite necessary to pay as careful attention to watering at this period of the year as during the summer. The soil has now become quite filled with roots and the ball of earth is very hard, and if from over-dryness the soil cracks away from the sides of the pots it is not easy to make it thoroughly wet again. If the plants are left out of doors until the end of this month and a wet period sets in, the best plan is to lay the pots on their sides to prevent the soil from becoming too much saturated. Laying them down also exposes the under sides of the leaves to the wet, which will destroy any red spider that may be on them.

CUCUMBER AND MELON HOUSES.

We have placed out the Cucumber plants, which will begin to bear next month, and continue to do so freely for the next twelve months if they are attended to and are not allowed to bear too heavily at any one time. We still grow Tender-and-True for winter, and have besides planted two sorts received from Mr. Kelway of Langport, Somerset. Mr. Kelway has succeeded in raising a strain of Cucumbers, evidently of the Blue Gown and Tender-and-True type; they are not only well adapted for exhibition, but are also good winter croppers. We explained our method of culture in the number for September 20th. It has been a very good season for the last few weeks for ripening Melons, and we have tasted green and scarlet-fleshed sorts of excellent quality. It has not been difficult to keep up the required temperature at night, and the sun has had a powerful influence by day. Fruit in a growing state or ripening must be treated to a temperature of 65° at night, and but little moisture is required from evaporation. Allow air by night as well as by day when the fruit is approaching the ripening stage.

GREENHOUSE AND CONSERVATORY.

These structures ought now to be kept very clean, and the flowers should be carefully preserved as long as possible, as they are very scarce at this season out of doors. Fading leaves are removed from Azaleas and many other greenhouse plants as they become tinged by decay. The house looks untidy if these are not removed; and further, as they may contain red spider and thrips they are better burned, or the insects may spread to other plants and cause very much more trouble afterwards. Zonal Pelargoniums are very useful plants at this time, but they have an untidy appearance if the decaying flowers in the centre of the trusses are not removed as soon as they are perceived.

The Chrysanthemums have been removed under glass, as we were afraid of the frosty nights injuring the blossoms which were showing colour; indeed, some of the early-flowering varieties, such as James Salter, have flowers very nearly expanded. As a preventive of mildew we throw a cloud of sulphur from the sulphurator, forcing it up amongst the branches, so that the largest portion of it adheres to the under sides of the leaves. Thrips and green fly also attack the young leaves and work into the petals of the flowers, causing much damage. These may both be destroyed by fumigating with tobacco smoke. The flower buds of Pompons may be tied into their proper position, and they should not be tied down too closely, as nothing looks more unnatural than to see the clusters of flowers jumbled together, while a well-trained specimen with the flowers evenly arranged and in their natural position—facing upwards, is a most beautiful object. No sticks are required for Pompons, but to grow the large-flowered varieties well it is necessary to have a stick for each flower, and when they are well grown and trained they make a fine show during the greater portion of November and December. It is well also to take note of the earliest and latest-flowering sorts. Mrs. G. Rundle, for instance, is sometimes in full beauty by the second week in November, and Lady Slade, Her Majesty, and other sorts of the same type will not be in flower until the last week in the same month. This very much prolongs the bloom. It is the same with the Japanese sorts; the earliest, James Salter, opens its flowers a month or six weeks before the latest, which with us is a noble golden yellow sort—Grandiflora.

Cinerarias and Calceolarias must now be attended to. The plants should be quite close to the glass, and they must also be protected from frost and damp. Their worst insect enemy is green fly, which seems to grow at a most rapid rate on the Calceolaria. Whether this is found on the leaves or not, the house should be fumigated with tobacco smoke to prevent its appearance altogether. Neither of these plants do well in a house where the atmosphere is very dry; they like a moist atmosphere, but it must not be so damp as to hang upon the leaves to cause mould on them.

FLORIST FLOWERS.

The work of the florist (the man who goes in for florist flowers thoroughly), is never done, and as the season wanes into autumn, and autumn gives place to the dull dark days of winter, there is sufficient to occupy all his spare time. Any time this month

the Carnations and Picotees may be potted and the Pinks planted out. Ours were done three weeks ago. It was necessary to pot the Carnations and Picotees to check their growth, else we do not care to pot them before the second week of this month. If they are potted too early the small pots become too full of roots before it is time to repot them in the spring. We would rather pot a second time later in the month to consolidate the growth. Greenfly continues to increase upon Auriculars, but we either fumigate or dust the leaves with tobacco powder. The larger outer leaves decay as the season advances, and we have them removed to prevent them from injuring the main stems.

The recent frosts have severely punished the Dahlias, and it is as well to dig them up on a fine day and to dry the tuberous roots in the sun, placing the stem downwards. This is necessary to drain out the water which frequently gathers in the hollow stem. The roots should be stored in a dry place and where no frost can reach them.—J. DOUGLAS.

TRADE CATALOGUES RECEIVED.

J. C. Wheeler & Sons, Kingsholm Nursery, Gloucester.—*Autumn Catalogue of Fruit Trees, Evergreens, and Roses.*

William Knight, Floral Nurseries, Hailsham, Sussex.—*Catalogue of Fruit Trees, Evergreens, Roses, &c.*

Souper et Notting, Luxembourg.—*General Catalogue of Roses.*

Joseph Schwartz, 43, Rue du Repos, Lyons, France.—*Catalogue of Roses.*

J. B. A. Delenil, au Haut de Rue Paradis, Marseilles, France.—*Special List of Amaryllides, Tuberous Begonias, Yuccas, &c.*

Rawlings Brothers, Old Church, Romford, Essex.—*Catalogue of Dahlias.*

Thomas S. Ware, Hale Farm Nurseries, Tottenham.—*Autumn Catalogue of Hardy Florists' Flowers and Roses.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

BOOKS (J. Sampson).—The title is "The Natural Principles of Landscape Gardening, or the Adornment of Land for Perpetual Beauty. By J. F. Johnson." Write to the publisher, C. Aitchison, 12, Castle Place, Belfast.

SEEDLING GERANIUMS (W. Swanson).—Your seedling Geraniums are not superior to others already in cultivation, and therefore would not be saleable as new varieties.

POTATO DISEASE.—"W. G." will oblige several correspondents if he will detail how and when he applied lime and gas lime so as to prevent the disease occurring.

LEAVES SPOTTING (An Old Reader).—Caused by defective root-action. The soil is not suitable probably, or water is applied judiciously. We cannot name Ferns that have no spores on the specimens.

VINES MILDEWED (R. B. R.).—If you remove the Vines to another house the mildew will be continued there unless it is previously extirpated by thorough dressings of sulphur.

NEWCASTLE SHOW (Hilton).—You must write to the exhibitors for the information.

CUCUMBER (J. B. A.).—Write to any of the principal seedsmen and tell them what you need. They will not willingly disappoint you.

BOXES (T. J. Harrison).—Write to Mr. Lovel, Weaverthorpe.

PRESERVING LEAVES (A Devonian).—Place them between sheets of blotting paper under a gentle pressure, and when quite dry stitch them on sheets of stout paper in a book of which each alternate leaf has been removed. Your bad specimens were not even numbered.

VIOLETS (R. J. S.).—We cannot without his permission publish the direction of "G. E. M."

LAMP-HEATING.—"H. C." asks for the experience and results of someone in heating by lamps.

BUDDLEA GLOBOSA (E. Y.).—It is a shrub, and usually grows to the height of 10 or 12 feet. It is a native of Chili. We have grown it luxuriantly on a chalky soil, and also on a gravelly soil.

SCALE (S.).—You will do well to destroy the Cotoneaster. Spirit of turpentine brushed over the branches would kill the insects.

STOVE (H. M.).—We cannot recommend any, never having used one. Write to the makers and ask for the name of someone who has tried their stove.

BON CHRÉTIEN PEAR (Croydon).—It was introduced long before the last century. Rea in his "Pomona," published in 1659, includes the Summer and Winter Bon Chrétien without any intimation that they were recent introductions. Dr. Hogg in the last edition of the "Fruit Manual," states that various opinions have been expressed as to the origin of the name of

Bon Chrétien, one of which is that François de Paul, the founder of the Minimes, being called to the Court of Louis XI. for the recovery of his health was styled by that Monarch "Le Bon Chrétien," and that he brought along with him from Calabria some of the fruit of the Pear now called Winter Bon Chrétien, which is said to be there grown in great quantity. Munting seriously affirms that the Pear appears to have received its name at the beginning of Christianity, and that from this title it merits the respect of all Christian gardeners. Another opinion is, that St. Martin, Bishop of Tours, was the first who obtained this variety, and that a king of France, having tasted it with him, asked, when it was presented to him, for *Des poires de ce Bon Chrétien*. But, perhaps, the most probable derivation is from the supposition, more or less well grounded, that it is the *Crustumum* of the Romans, but whether or not it is so is difficult to determine. Switzer says they are so called from not rotting at the heart, but beginning to decay from the exterior part.

MAGNOLIA (*T. H.*).—The leaf is of a Magnolia conspiciens. It is unusually large, but this is accounted for by rich soil and the climate of South Devon.

BULBS IN WATER (*J. G.*).—The best bulbs to grow in water are Hyacinths. By using cocoa-nut fibre as you propose Crocuses and Tulips will do pretty well. Mr. Barr of King Street, Covent Garden, has grown and flowered the "pretty sweet-scented Iris alata in a Hyacinth glass." Other bulbous or tuberous-rooted flowers may be tried in the same way.

PLANTING SPIREA JAPONICA AND NERTERA DEPRESSA (*Sambo*).—*Spiraea japonica* and *S. palmata* are quite hardy, though liable to have the foliage cut by severe late spring frosts. They should be planted in good rich light soil in a sheltered yet open situation from November to March in mild weather. *Nertera depressa* is hardy on moist rockwork in peat or vegetable soil in a sheltered situation, but is best wintered in a frame.

APPLYING CHARCOAL AND BONE DUST TO FLOWER BEDS (*Idem*).—Both are first-class manures. Charcoal may be used at the time of making the beds. A dressing 2 inches thick mixed with a foot depth of the surface soil is the most we have used to a strong soil, an inch thickness of charcoal and worked in with a fork would be a sufficient application to ordinary-textured loams. One peck of bone dust per rod (304 square yards) distributed over the surface and pointed in with a fork lightly prior to planting is very invigorating to most plants, notably *Pelargoniums* cultivated for their foliage.

CUTTING DOWN VARIEGATED RHODODENDRON (*Dan*).—Cut it down to the height required during moist weather at the close of April or early May. Propagation is very tardy from cuttings, but layers made now or in spring are certain to form plants quickly, the shoots being notched previously to being pegged in the ground.

BOUGAINVILLEA SPECTABILIS AND LÆLIA PURPUREA NOT FLOWERING (*Subscriber*).—The *Bougainvillea* should have the roots confined to a very limited space as compared with the extent of surface to be covered by the plant, and to be very sparingly watered after the growth becomes free, the object being to have the wood firm and well ripened. Watering should cease in August, only a little should occasionally be given to prevent excessive flagging, and the wood should be trained thinly so as to expose it fully to light and air. By keeping dry from August to March your plant ought to flower, pruning being restricted to thinning the shoots. The *Lælia* does not flower because we apprehend it is kept constantly growing, whereas it requires a plentiful supply of water and moisture until the growth is complete, and should then be kept dry and fully exposed to light, when it will flower in due course, provided the growths are sufficiently strong.

NAMES OF FRUITS (*Essex*).—Your Apple is *Gloria Mundi*. (*I. P. H.*).—We do not recognise your Pear. The deformities are not uncommon. (*J. D. Duffus*).—*Hawthornden*. (*Fitz*).—1 and 2, Not known; 3, *Dumelow's Seedling*; 4, *Gloria Mundi*; 5, *Wormsley Pippin*; 6, *Golden Winter Pearmain*. (*Northern Spy*).—1, *Winter Peach*; 2, *Wadhurst Pippin*; 3, *Rhode Island Greening*; 4, *Morris' Russet*; 5, *Pitmaston Golden Pippin*. (*Rev. R. Percy*).—*Lincoln Collin*. (*C. J. B.*).—*Cambusnethan Pippin*. (*Connaught Subscriber*).—*Yat*. (*W. H. Ashwin*).—1, *Gloria Mundi*; 2 and 3, *Winter Hawthornden*; 4, *Very like Golden Reinette*; 5, *Cobham*; 6, *Lewis's Incomparable*. (*G. F. B.*).—1, Not known; 2, *Duchess of Oldenburg*; 3, *Cellini*; 4, *Beauty of Kent*. (*J. Edge*).—*Northern Spy*. (*Sedgley*).—*Tower of Glamis*. (*R. B. L.*). 1, *Winter Peach*; 2, *Herefordshire Pearmain*; 3, *Dumelow's Seedling*; 4, Not known; 5, *Bedfordshire Foundling*; 6, *Baron Ward*. (*A Ten-years Subscriber*).—1, *Flower of Kent*; 2, *Winter Gilliflower*; 3, *Ord's*; 4, *Winter Colman*; 5, *Bedfordshire Foundling*; 6, *Bradrick's Nonpareil*.

NAMES OF PLANTS (*C. T.*).—*Viburnum Lantana*. (*Rev. T. A. B.*).—We have no plants on hand unnamed. Send some fresh specimens. (*A Subscriber*, *Andover and T. J.*).—*Viburnum Lantana*, the *Wayfaring Tree*. (*A. McDonald*).—*Tecoma radicans*. (*N. C.*).—Specimen of *Fuchsia* insufficient. (*Cycad*).—*Coccoloba platyclada*. (*Ten-years Subscriber*).—1, *Lycasteria formosa*; 2, *Erythrina crista-galli*. (*A. Y. D.*).—*Sedum spectabile*. (*T. Hyde*).—*White Beam* (*Pyrus Aria*). (*J. P.*).—*Duranta Plumieri*. (*G. B. C.*).—1, *Coccoloba platyclada*; 2, *Cystopteris fragilis*.

POULTRY, BEE, AND PIGEON OHRONIOLE.

TOUTING SHOWS.

THERE is a system very prevalent in the present day among the managers of poultry exhibitions which we consider very objectionable. The matter to which we refer is the plan of writing round to the chief exhibitors a day or two after the entries are supposed to have closed in the following way:—"Blankshire Show. Please send some entries! Open up to—." At present have only two Dark Drahma cocks and two ditto hens! Others proportionately weak. Hope you will help." This little note, generally written on a postcard, is then sent round to perhaps half a score of (for example) Dark Brahma breeders by the same post; and though it may be true that at the time they were sent only two entries had been made in those particular classes, generally most of the recipients of the postcard imagine on its arrival that they can get a prize very cheaply and so are constrained to send an entry, whereas by the fact of many thinking the same the class is frequently made

larger and the competition more severe than is usually the case. We maintain that if such a missive is sent to Mr. Jones it should be also stated that the Messrs. Brown, Smith, and Robinson also have had such an one, or else it appears to us to be obtaining entries on false pretences. We received such a card the other day, and have above copied it verbatim, only altering the name of the breed. And the fact of the system being worked as we have described was very vividly brought home to us, for a poultry fancier who was staying with us at the time, in the course of a post or two, had his letters forwarded from his home, and among the enclosures was a *fac-simile* of our own card; and he in his turn leaving us went to stay with a fresh poultry ally, and found to his surprise that he too had received just another card. This gentleman, however, very properly considers that equity should be the maxim of all shows, and as he did not like the idea of entries being obtained by these means he wrote to the writer, and remonstrated with him on the unfairness of writing in the same terms to so many without stating to each who else he had written to among exhibitors of the various classes. He also wrote to us in the following words, and his letter was a type of many such we have received. We quote from it:—"In my reply to the postcard, which I took some pains in wording, I said that had I intended exhibiting at Blankshire my entries would have been made in due course, and that I thought it very unfair to those exhibitors who had duly entered their birds that the lists should be kept open after the day originally fixed, and still worse that the Committee or Secretary should endeavour to swell the lists by informing a number of possible exhibitors of the classes in which there was likely to be little competition. I added that I was aware I was not the only exhibitor to whom a similar communication was addressed." The reply of the gentleman who sent about the cards was in the following terms:—"By dint of hard work and almost caddling for entries they have come up to more respectable numbers. I know it has become the custom to write round as I did to the well-known exhibitors if entries are short at the last moment, and if I had not found it to be the general practice from the oldest established shows down to the smallest local ones to do the same thing I might have hesitated to take such a course. It was done with no intention of deceiving anyone or drawing them in under false pretences, for surely there is no harm in striving to get up the strongest competition possible, especially when prospects look as gloomy as ours did, with only — entries on the evening of the date first announced for closing."

Against the practice there is this to be said—that those who make their entries at the proper time are not equally treated with those who are allowed to enter some days after the advertised date; for the first make their entries without knowing if certain birds of theirs will be ready by the time, while others by waiting do not enter unless their specimens are in a fit state, and so have the better chance; while if the date had been closed to all at one time, either all would have had to share alike in the uncertainty of the matter, or the first comers would have had the class to themselves and less competition against them. Again, against the touting principle many perhaps would not have entered because they had arranged for their birds to be on the day at some other exhibition, but on receiving the card imagine inferior birds will win in such small competition and so make their entries, whereas the similar cards being sent to many the class ends in being large and the chances for less valuable birds to win small. What should consequently be done is what the Secretary of an important show said to us the other day:—"Choose the last possible day before the show is held when entries can comfortably be received, and then publish that day and keep to it." Exhibitors will soon find out that the rule is observed and accordingly enter in time, which will stop all the necessity and consequent unpleasantness of the touting system.—W.

ALEXANDRA PALACE POULTRY SHOW.

THIS makes the third of the metropolitan shows for this season, and we are sorry that it has, on the whole, come off short in the number of its entries. This was, however, to be expected, for we never remember so large a number of important chicken exhibitions being held within so short a space of time in the early part of one season. We must, however, congratulate Mr. Nicholls on his admirable arrangements. The pens were all on one level, while the cards were placed on them as soon as each slip was handed in from the Judge. We were greatly pleased at this, and Mr. Nicholls has inaugurated, we hope, a commendable system for future shows. The Judges were—for poultry, Messrs. Mathews, Hewitt, and Teebay; and for Pigeons, Messrs. Equilant, Tegetmeier, and Capt. Heaton. We must content ourselves with noticing the chief objects of merit in each class, as the early date of going to press necessitates it. The quality of the birds was good, and many of the awards most judiciously made, while others, though under the same adjudicators, were much reversed from those of the Dairy Show last week.

Waterfowl mustered fairly, the Aylesburys and Rouens being both good collections, and the winners fine. In Blacks Mr. Kellaway walked his two pens in once more first and second, though Mr. Ogilvie made a good third with a pen very lustrous

C. E. Chavasse. 2, R. Woods. 3, D. Wootton. *Hen.*-1 and 2, W. Bishop. 3, G. Packham. *Any other colour.-Cock*-1, T. C. Burnell. 2 and 3, R. Woods. *Hen.*-1, 2, and 3, R. Woods. *Blue or Silver.-Single Young Birds.-Cup*, 2, and 3, R. Woods. 4, T. C. Burnell. *Red or Yellow*, -1 and 2, R. Woods. 3, F. P.

Ellis. Any other colour.—1 and 3 R. Woods. 2, G. Packham.

TUMBLERS.—*Almond*.—*Cock*.—Cup, J. Ecroyd. 2, H. C. Henning. 3, J. Baker. *Hen*.—1 and 2, J. Baker. 3, R. Fulton. *Almond*.—*Single Young Bird*.—Cup and 2, H. C. Henning. 3, T. Rule. *Black Mottled*.—*Cock or Hen*.—1, H. C. Henning. 2 and 3, J. Baker. *Balds or Beards*.—*Cock or Hen*.—1, W. Woodhouse. 2 and 3, H. Yardley. *Any other variety*.—*Cock*.—1, J. Baker. 2, J. Ecroyd. 3, H. C. Henning. *Hen*.—1, H. C. Henning. 2, H. Yardley. *Not Short-faced*.—*Single Bird*.—1, H. Yardley. 2, R. Woods. 3, J. Barnes.

BASE.—*Cock*.—Cup and *vic*, J. Firth. 2, M. Hedley. 3, R. Fulton. *Hen*.—1, R. Fulton. 2, M. Hedley. 3, H. M. Maynard. *vic*, J. Chandler. *Black or Dun*.—*Single Young Bird*.—Cup and 2, R. Fulton. 3, M. Hedley. *Any other colour*.—*Single Young Bird*.—1, P. H. Jones. 2, R. Fulton. 3, J. Firth.

JACOBIANS.—*Red*.—*Cock*.—1 and 3, J. Frame. 2, H. Heritage. *vic*, J. Pyper. *Hen*.—Cup, J. Frame. 2, H. Heritage. 3, J. Pyper. *Yellow*.—*Cock*.—1 and 3, J. Frame. 2, H. Heritage. *vic*, J. Pyper. *Hen*.—1, R. Fulton. 2, J. Baker. 3, J. Frame. *vic*, J. Thompson. *White*.—*Single Bird*.—1 and 2, S. Salter. 3, J. Thompson. *Any other colour*.—*Single Bird*.—1, J. Baker. 2, H. Heritage. 3, J. Schweitzer.

FANTAILS.—*White*.—*Cock*.—1 and 2, J. F. Loversidge. 3, J. Baker. *Hen*.—Cup, O. E. Cresswell. 2, J. Eaton. 3, J. F. Loversidge. *Any other colour*.—*Single Bird*.—1, J. Baker. 2, H. Yardley. 3, H. W. Webb.

NUSS.—*Single Bird*.—1, H. Jacob. 2, W. L. Stevenson. 3, J. T. Herbert.

TRUMPETERS.—*Single Bird*.—Cup, J. Lederer. 2, J. Baker. 3, R. Fulton.

OWLS.—*English*.—*Cock*.—Cup and 2, J. Ecroyd. 3, S. Salter. *Hen*.—1, J. Ecroyd. 2, Ward & Rhodes. 3, T. G. Sprunt. *Foreign*.—*Single Bird*.—Cup, J. Baker. 2, F. Wilde. 3, R. Fulton. *English*.—*Single Young Bird*.—1, J. Ecroyd. 2, T. H. Stretch. 3, S. Salter.

TURBITS.—*Blue or Silver*.—*Single Bird*.—1, J. Ecroyd. 2, T. C. Burnell. 3, S. Salter. *Red*.—*Single Bird*.—Cup, T. C. Burnell. 2, J. Baker. 3, C. A. Crafer. *Any other colour*.—*Single Bird*.—1, J. Ecroyd. 2, O. E. Cresswell. 3, Ridley & Dye. *Any colour*.—*Single Young Bird*.—1, C. A. Crafer. 2, S. Salter. 3, G. Roper.

MAGPIES.—*Single Bird*.—1 and 2, S. Salter. 3, G. H. Gregory.

RUNTS.—*Cock*.—Cup, A. Miles. 2 and 3, J. S. Price. *Hen*.—Cup, H. Yardley. 2, A. Miles. 3, J. S. Price.

ANTWERPS.—*Short-faced*.—*Single Bird*.—1, 2, and 3, J. Ecroyd. *Homing*.—*Cock*.—Cup, T. Gomm. 2, C. Chandler. 3, W. E. Willis. 4, C. G. Butler. *Hen*.—1, W. E. Willis. 2, T. Gomm. 3, C. G. Butler. 3, S. R. Pearce. *Special Flying Class of Homing*.—*Cock*.—Cup, J. Edmonds. 2, P. J. Cheffins. 3, J. Collard. 4, J. Edmonds. 5, G. Carvill. *Hen*.—1, J. Collard. 2, E. T. Dexter. 3, G. J. Lenny. 4, P. F. Cheffins. 4, J. Edwards.

ANY OTHER VARIETY.—1, H. W. Webb. 2, T. Rule. 3, Rev. E. Peel.

SELLING CLASSES.—*Single Bird*.—1, J. Chandler. 2, P. H. Jones. 3, W. Bulmer. 4, H. M. Maynard. *vic*, W. Bulmer. *Pairs*.—1 and 2, P. H. Jones. 3, J. J. Edelstein. 4, J. T. Theobald.

THE PIGEON FANCY.

"Look! Do you see that flock of small Pigeons very high up just passing your strip of black cloud? Those are mine." "Yours!" "Yes mine. They are my Tumbler Pigeons taking their afternoon's aerial trip. They will alight here, and go in there to roost. There are six or eight young birds in the nests, and I will show you them up among the clouds with their parents if you will give me a call by-and-by. But just watch a minute; see every second or two one or other of them throws a single, double, or triple somersault, and they seem to vie with each other which will do those somersaults neatest and oftenest. Notice the one a little above the others. He is a Blue with barred wings and tail. See! he stands an instant on air, and there!—three turns at one roll, and he has not fallen much above a foot. Look again. Two somersaults and yet going upwards! He is a bird of remarkable power of wing, and always acts as leader of the flock." "Most extraordinary!" exclaimed my friend. "I never saw anything like that. Surely that is a curiosity in natural history. Is that tumbling not a disease?" "No; but could it be proved to be disease it is a most healthy one, as Tumbler Pigeons are the most hardy of all the family, and live to a good age." How big I felt then, when I could say those birds are mine—birds on the wing away among the clouds, soaring free as the wind, having all around them boundless space, and yet I could and did say they are mine.

"But come, I will show you something unique in the tumbling line amongst Pigeons. You see that pair of small red birds on the floor; stamp your foot. There! the cock with the white feather in the tail has risen but 2 feet and tumbled twice; and the hen (self-coloured) has risen only 12 inches and has tumbled once, both as neatly as the most accomplished Japanese tumbler." "Why is all this not generally known?" said my friend. "If it were known it would put a check on some of the wild theories now started." My reply was also in the form of a question. "Why do people walk over and trample down the most beautiful flowers and not know it? Answer, Because they won't look at what they are walking upon, and don't know of the world they live in." The above dialogue took place fully thirty-five years ago; it is no fiction, but what actually passed almost verbatim.

In those days the Pigeon fancy was carried out in all its entirety; all the varieties were kept pure—all we then had, which comprised all we now have excepting the Russian Trumpeter and African Owl. Of course I exclude the numerous Toys that come now and then from the Continent. At this late date we can still show a flight of Tumblers second to none, all colours, and still a pair at least that will tumble once for every 12 inches they rise from the floor or ground, and we still feel that it is something to be able to say to a friend who comes to see our flights of Tumblers in the clouds, Those birds are mine.

Without prejudice let us look at the state of the Pigeon fancy now. I may safely question, as a general rule, where is it? I go into the large towns of England—say, Liverpool, Manchester, Birmingham, and all the "black country," the very places in which the fancy might be carried to the highest points; but what do I see? At the breakfast and dinner hours perhaps from ten to fifteen flocks of Pigeons in view flying round and

round the chimney pots of the locality, so long as they are kept up by terror of the flag that is waved to keep them from alighting. These are no Tumblers, no! not anything of any merit. A lot of mongrels only fit to fly when pressed to it by the fear of some old rag, and the thing has become so disgusting that the magistrates of Walsall have determined to put a stop to Pigeon flying on the Sabbath, having already fined two men for prosecuting it. Certainly a move in the right direction. This is one of the fruits of the degeneracy of the fancy. It must not be supposed that I find fault with the particular fancy of anyone; I merely deplore the present state of matters, and would, if I could, turn the tide into the old channel when birds were bred to the original points without any innovations. When I used to start from my native city, Edinburgh, on my English journeys what a store of beauty awaited me! Newcastle on the one hand, and Carlisle on the other. South and farther south to London the sights were endless; Canaries predominated in this town and Pigeons in the next, and all as a rule were of high if not of the first-class order, and in the very Pigeon shops something could be bought worthy at the time of a better price than was asked. In those days the stocks exhibited to friends told at once of the artistic eye and elevated taste of their proprietors. The birds were kept for the pure love of the fancy, and therefore they must be of the highest order, not bred for the sordid love of gain, either by sale or for prize money to be obtained from shows. I hold that shows have done no good to the fancy, not because I do not approve of shows, but because I cannot approve of the manner in which they are conducted. But more of this shortly.

But what do I see now? Of course many of the old fanciers are gone; but alas! the fancy in a great measure seems to have gone with them. Here a stock of coarse birds, so-called English Owls; there a lot of Dragons; again a stock of birds, mere nondescripts called Antwerps; again the remains of the wreck of that beautiful bird the Jacobin. I am shown a bird which I cannot tell from what it has sprung, and am told "This is a sure winner." I am written to for birds, but "Don't send them unless they are certain winners." I can't see that anyone can ever be a true fancier who insists upon playing out the game of money in connection with the fancy.

Just look at our shows, particularly in England, what are they made up of? Long-faced, Medium-faced, and Short-faced Antwerps—in fact common flying Pigeons, Dragons of different colours, and so-called English Owls, all birds of no merit and bred without trouble. I see a show advertised to take place next month in the south, in which there are to be eighteen classes for Dragons, seven for Antwerps, and five for Owls: what interest can those birds have for the general public, or are they likely to attract an aspirant to the fancy? The fancy in the south is not only rapidly degenerating but seems to be in a moribund state. Over and over again I among others have appealed to our friends in the south to keep to birds having distinctive characteristics and to be done with all the cross-bred trash which are not worth a day's trouble or expense, and to come out in something genuine and worthy of their genius. But it seems of no avail, they will go on in their own course; and therefore I shall trouble no further, but turn to the fanciers of my native land, and appeal to them in connection with the trash that is so often seen, and say in almost the exact words of my ancient townsman Robert Ferguson—

"O Scotland that could once afford
To bang the pith o' Roman sword,
Winna your sons wi' joint accord
To battle speed,
Fight till the fancy be restored
Whilk now lies dead?"

—JAMES HUIE.

CANARY TREATMENT.

THE following advice of Mr. Barnesby relative to the management of a sick Canary which was infested with insects, and yet refused to wash except in its drinking fountain, having proved successful in restoring a favourite bird, may, perhaps, prove useful to others:—

"At once," advised Mr. Barnesby, "transfer the bird to another cage whilst you dress with either turpentine or naphtha the crevices of the one infested with the vermin. In about an hour's time scald and clean the cage with soap-and-soda suds. The following day the cage will be ready, but prior to placing the bird in let it undergo the washing operation, which can be performed in the following manner—One advantage is to get the bird washed as speedily as possible, and keeping it warm the whole of the time. You will require a cage for drying the bird in before the fire, with a cloth spread on the bottom of the cage. When holding a bird to wash it do so carefully but firmly. Place the bird in the left hand with its head towards your wrist and the tail over your forefinger. Do not press the thumb tightly across its neck or the feathers may become curled or frilled. Then with a soft shaving brush lather well down the back, wings, and tail. Turn the bird over and operate the same way about

the breast and underneath the tail. Wash the head and neck lastly, and when you find the dirt well extracted from the feathers rinse off in clean warm water, and dry with a soft cloth. Afterwards place the apparently prostrate bird in the drying cage, and in about fifteen or twenty minutes you will find the bird attempting to perch and shake and regulate its feathers. Let the water be about blood heat, and be careful the bird is not placed too close to the fire to dry. But even with all the above operations and precautions you may not at once get rid of the vermin, for around the very nail in the wall whereon the cage may hang the insects will secrete themselves, and this will show the necessity of further perseverance before the vermin are exterminated. Plenty of grit sand and bathing are necessary, and if your bird habituates itself to splash about in its drinking fountain it must be taught otherwise. No doubt you have noticed that when you have replenished the water fountain daily, the bird will take its bath such as it is. Instead of replacing the fountain open the cage door and hang on the entrance a proper kind of bathing vessel. The same may be purchased at a bird shop in London. The bird will thus gradually learn to drink and splash therein. After the regular bath is taken away replace the fountain."

The bird which was apparently approaching its end has now recovered its song, and is healthy and happy.—J. W.

THE USE OF PERFORATED ZINC IN SUPERING.

This zinc is made in sheets 6 feet long and a yard wide, and can be bought in this shape at a much cheaper rate than that charged for smaller quantities. The perforations are 5-24ths of an inch in diameter, which size permits the workers to pass to and from the supers, but excludes the drones and queens. I have this year employed it in seventeen hives, and in no instance was a super disfigured either by brood or pollen. I believe that this has not been invariably the case, as in the "British Bee-keepers' Journal" for September Mr. Abbott writes: "In some instances the comb (*i.e.*, the comb of sectional supers) has been filled with brood in most regular order, and in others some of the cells have had pollen deposited in them. This argues either that queens and bees differ in size respectively, and that one pattern of zinc will not suit all equally well, or that the bees and their queens are very wilful, for in the two sets of sections received from our honourable friend at Haverhill there was not a speck or blemish of either brood or pollen." Perhaps I may be permitted to suggest that one or more perforations in the zinc employed in the former case proved faulty in regard to size, and so admitted the queen and pollen-laden bees. I found a piece of zinc in this state, having four holes ragged and elongated, which would certainly have given a passage to a small queen if I had used it. At the Alexandra Show last year I saw the zinc was employed in some cases simply by laying a sheet cut the same size as the top of the hive upon the frames, the supers being placed upon it.

My method of using it is as follows:—I fix the sheet of zinc to a frame formed of quarter-inch wood 1 inch broad, and having a piece running across it parallel to the bars of the frames to support the zinc in the middle. I remove the quilt, and the framework occupies its place. Over each half of the sheet a set of sectional supers can be placed. I only place one set at first, keeping the opposite side covered with a piece of carpet until the first super has been commenced, then a second super is given. When one super is finished I take out with a penknife two slits of wood from its top and place a second super over. The bees soon ascend if honey is being collected, and as soon as the upper one is well under weigh I withdraw the lower one, the upper one taking its place, and so on to the end of the season. The framework upon which the zinc rests allows the space of a quarter of an inch above the frame bars, and thus gives free entrance from any part of the hive to the supers. Two accidents occurred to me this season in connection with the use of the perforated zinc. On May 14th a stock which was unusually powerful, and which was bringing in honey from fruit trees, seemed ready to enter a super. I was much engaged at the time, and placed a set of sections upon the quilt, giving access to it through the central feeding hole. This super remained so for about a week, the bees building several sections of comb, when I substituted the zinc and framework for the quilt and placed the super in its proper position at one side of the top of the hive. The super was rapidly filled and another at its side. Two others were entered above them, and according to my usual plan I proceeded to remove the lower supers. I then found that the bees refused to vacate the first super, and upon examination I found that her majesty was located therein and that the four central sections were full of brood and eggs. I first ascertained that all was worker comb (I did not wish to have a heap of dead drones on the zinc), and I then determined that during the glut of honey which had set in I would prevent the queen from again entering the hive, detaining her a prisoner in the super. That particular hive gave me the greatest produce

of honey of all the hives in my apiary excepting one. When the harvest began to fail I released the royal captive, having first examined the stock hive, which, as I expected, was stored with honey from side to side. Several combs were extracted, to be employed in hives to receive driven bees this month. Empty combs were put in their places. Gentle feeding commenced, and now that hive has a teeming population and plenty of stores for winter consumption.

The other hive alluded to above contains the queen which headed the colony in the straw skep last year, and which produced 131½ lbs. of surplus honey shown at the Alexandra Show. This queen having proved to be so valuable, and being likewise a young one, I determined should not be prevented for want of room from producing as numerous a colony as care and her "natural abilities" could compass. I think I stated last autumn that I had transferred her and the bees and combs to a bar-frame hive, having room in it for sixteen frames. I constructed this hive with a particular purpose. During the winter the eight central frames only were tenanted by the bees, wooden partitions of a quarter-of-an-inch stuff parting off the four outer frames at either end from the central ones. I spared no pains to induce the queen to lay eggs early, and the month of April showed me that in spite of the unpropitious spring the eight central frames were covered with bees and full of brood in all stages. I then gave two more frames to the brood nest by moving the two partitions back and exposing a frame at each end respectively. These frames were provided with clean old worker comb. The honey harvest commenced. The hive was full of bees, and now I carried out my design. A Lee's Crystal Palace super was first given over zinc at the top, covering the ten frames. This was entered, and when well begun I moved the wooden partitions, this time not only placing them respectively a frame back, but substituting for them two sheets of perforated zinc. The frames exposed were guided with wax midribs, and could be reached only through the zinc perforations. I believe that the bees would have swarmed that day, but that the extra collateral space prevented them from doing so. Strips of half-inch wood resting on the rebates shut off the passage to the side spaces from above. I found that the bees still increased, and that a glut of honey had set in; I therefore removed the wooden partitions altogether, and although the harvest ended so suddenly and prematurely, I found the whole of the six frames, three at each end of the hive, stored and sealed, not a speck of pollen and not a trace of brood visible on them. Weight 81 lbs., a Lee's super 22 lbs., and a set of sectionals over the Lee's 18½ lbs.; total of virgin honey, 71½ lbs. I was quite contented with this considering the season, and I think I have learnt a new method of employing the zinc, together with the use of the dummies or wooden partitions.

Many interesting experiments have been made by some of our leading bee masters during the past season similar in some respects to the one I proposed to myself and carried out, but all differ somewhat from the method I have attempted to describe. My desire was to give to the bees, at the same time that super room was being slowly augmented, gradually enlarged collateral space, and I believe that in a good honey season the results I obtained could be more than doubled in value by removing the frames from the sides one by one as they are completed and replacing them by others with deep sheets of midribs. My letter has been spun out to such a length that I cannot ask for more space to give your readers my experience—my first year's experience of Ligurians; this I shall hope to do on a future occasion.—P. H. PHILLIPS, *Offley Lodge, near Hitchin.*

BEEs IN THE YEAR 1877.

THE bee season of 1877 will long be remembered by apiarians as being one of the worst experienced for a considerable number of years—for over two decades at least. In looking back over its course I can scarcely find one redeeming point from its opening to its close. Its disastrous history may be read in the mortality of hundreds of hives throughout the country; indeed, in the utter ruin and extinction of whole apiaries. I do not know if matters are so bad in the south, in the more genial climate of England, where comparatively better weather apparently prevailed; but in Scotland, more especially in the eastern, central, and northern portions of the country, the havoc produced in many apiaries is unprecedented.

My own experience of the present bee season may, perhaps, in some measure represent that of many other bee-keepers. The autumn of 1876 found our hives generally well stored with provisions and amply populated. The wintering was extremely favourable. No lengthened confinement occurred to injure health or diminish unduly the population of the strong and healthy stocks. The opening spring accordingly found hives generally in splendid condition. Breeding, too, commenced very early, and everything promised well so far. February and March, however, were cold and backward, and scarcely a pollen load was seen to enter many hives for days together. April was not much better. Breeding evidently became completely

checked, and the bees accordingly diminished rather than increased in all hives. There was an improvement in May, and things began to assume a more hopeful aspect. June, too, with not a few good days succeeded, but all hives were far back for the season. The population in any hive was not such as it should be in this the great swarming month in Scotland. Swarms issued freely enough in the earlier localities, but the young colonies were comparatively small. In the later districts, however, bad weather prevented in many cases swarming altogether, and there were few after-swarms anywhere. For a time things went on hopefully yet slowly, but the season was now far advanced, and unless really good weather set in during July there would be little or no flower honey. Alternate good and bad days occurred, but swarms failed to fill their hives even with comb in the usual time, and little or no honey was being collected beyond the temporary wants of the moment. It now became evident that there would be no surplus flower honey. The supers were taken possession of, but little progress was made in working in them. Any little honey that was collected and stored there was afterwards speedily removed and utilised for the more pressing wants of the community. Now came the white clover season, but it miserably failed. This flower, second only to the heath in productiveness of sweets, was from the character of the weather unvisited by the bees, and so, too, may it be said in some measure of the wild mustard and bean, both highly prized by bees: little or nothing was obtained from them. Thus all the principal honey-yielding flowers of summer completely failed from wet, windy, and unseasonable weather. One hope still remained. The heath was yet a resource left, but it would be two weeks late at least. Meantime the hives were being fed to keep them up to the mark. Notwithstanding every effort, however, it was apparent the hives were fast diminishing in population onwards to the middle of August, when to the moors they were sent as the last resource left. I long hesitated. The weather was still doubtful; indeed throughout the season a sort of chronic sameness prevailed, so that if a few good days occurred these were succeeded by the recurrence of wet, cold, and sunless weather. No sooner had the hives been pitched down in the moors, therefore, when it became too evident that the movement was a mistake. There was no change in the character of the weather, and, to crown all, the heath blossom itself was defective, and even in the scanty flowers there was little or no nectar secreted. Thus after a three-weeks visit to the moors the hives were brought back in a worse state than when they were sent. Feeding even had to be resorted to at the moors to ward off starvation, a circumstance unprecedented in my experience. I counted some eight hives around my own that had completely succumbed, and during a subsequent visit I witnessed that ill-omened phenomenon, a hunger swarm, issue from some starving hive and settle upon one of my own hives. Considerable massacre was the consequence, as these are not the kind of accessions—a starving population—any hive is disposed to receive with favour. The poor queen was shortly afterwards found cast out dead.

But failure in honey-gathering is not the only evil of this most disastrous season. Most hives are sadly deficient in bees, and an examination of some will show that much of the combs are filled with unhatched brood, famine-reduced population combined, producing a state of matters very undesirable in any hive—namely, combs filled with sealed dead brood. Nor is this all the bad results of this untoward season. Not a few young queens have failed to become fertile from long-continued inauspicious weather. No less than five cases of this kind occurred in my own apiary. Such hives accordingly found at this season in such a condition are almost worthless, for though supplied with fertile queens they can never sufficiently recover or become good keeping stocks, as all the bees are adults, two or three months old, and cannot perhaps see, far less outlive, the winter.

Such is the sad experience I have to record of the present bee season, and I would accordingly advise that all hives be thoroughly examined, and their wants and deficiencies supplied as well in regard to food and population as to the state of the brood combs.—J. LOWE, *Edinburgh*.

BEE GOSSIP.

I HAVE given my hives this autumn nearly 1 cwt. of sugar, or about 170 lbs. of syrup. As I have only fed seven of them it will be seen that the average given to each stock has been about 24 lbs. This large quantity, however, makes but a poor show in several of the hives (although they are probably well enough supplied for the winter), because the bees were in general so utterly impoverished that they had nothing whatever to live upon, hence they had to support themselves and their brood from the provision with which my not unselfish bounty had supplied them.

For five or six weeks in August and early September the food was taken down with great regularity and in considerable quantities every day, but no hive took down more than 2 lbs. in

the day. All this time there was more or less of breeding going on in each hive. Latterly, however, but little food has been taken down, although the weather has been very warm by day with plenty of sunshine. It seems as if the bees had suddenly tired of it. Is it that September is a rest month with them, or that there being nothing to tempt them out into the fields they have fallen into a semi-torpid state and have not that stimulus to their energy which an actively foraging stock always finds when honey is to be found abroad? I am, nevertheless, daily expecting to witness a change, as the ivy blossoms are beginning to expand and will soon be full of honey and pollen if the weather permits. Then I expect to find, simultaneously with the waking-up of the bees' activity in the fields, a correspondingly renewed activity in emptying my feeding bottles.

The nights are unusually cold now, even within five miles of the Bristol Channel, and on low ground, and my bees begin to shrink within their combs and cells, so enabling me to see the condition of their stores. All look healthy and comfortable and seem ready for what may come, but soon I shall begin to cover and swathe them in drugget coats and blankets, that they may feel as little as may be the vicissitudes of weather, be it hot or cold. When once bees are wintered they should be kept still and quiet as much as possible. The quieter they are kept in a moderate and equable temperature the more successfully and with a lesser consumption of honey will they pass the December quarter. So no more feeding till the month of March.

All entrances should be narrowed to a size sufficient for four bees to pass in at a time; if larger, cold winds will enter with the more deadly effect, not to speak of various enemies which are now hunting about for winter quarters as well as for plunder. Drifting snow, too, must be carefully guarded against; it penetrates every crevice, and should be swept away continually as being among the deadliest of pests to our apiaries.—B. & W.

OUR LETTER BOX.

OXFORD POULTRY SHOW.—The entries are, of poultry 1013, and of Pigeons 1070.

RABBITS (*F. L.*).—Write to Messrs. Baily & Son, Mount Street, Grosvenor Square, and ask them for the information.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.						Rain.
1877.	Barometer at 82° and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Temperature.		Radiation Temperature.				
		Dry.	Wet.			Max.	Min.	In sun.	On grass.			
Oct.	Inches.	deg.	deg.	W.	deg.	deg.	deg.	deg.	deg.	In.		
We. 10	30.160	44.0	42.7	W.	49.0	53.7	36.5	60.3	38.6	0.159		
Th. 11	29.911	50.0	45.5	W.	49.9	58.2	44.0	98.0	42.2	—		
Fri. 12	29.930	50.0	45.7	W.	49.1	58.0	42.4	98.7	38.1	0.130		
Sat. 13	29.849	57.3	53.9	S.W.	49.8	62.4	47.4	92.1	41.1	—		
Sun. 14	29.830	57.8	52.2	S.	51.1	67.5	52.1	100.4	47.8	0.010		
Mo. 15	29.714	62.3	46.1	W.S.W.	52.6	66.2	52.0	98.8	47.1	0.010		
Tu. 16	30.077	47.1	43.3	S.W.	50.4	51.6	42.5	88.0	58.1	0.023		
Means	29.924	51.2	47.3		51.3	59.7	45.3	90.9	41.1	0.333		

REMARKS.

- 10th.—Rather hazy forenoon, dull but dry all day; wind rising at night.
 11th.—Rain during the night, followed by a very fine day; windy at night.
 12th.—Very fine all day, but rain at night.
 13th.—Wind and rain during the night and in the morning; a dull day, with a slight shower about 5 p.m. and very dark; starlit night.
 14th.—Beautifully fine all day, and starlight at 9 p.m.; but before midnight the wind rose rapidly, and by 1 a.m. it was terrific, and so continued till nearly 9 a.m.; rain fell about 6 a.m.
 15th.—Wind and rain at 9 a.m., but soon becoming bright and fine, though windy, all the forenoon; afternoon less bright; evening fine, but wind very high soon after midnight and during the early morning.
 16th.—Rather a dull day, and much colder.

The most noticeable feature of the week was the extremely violent wind in the early morning of the 15th; but it was not so great here as in other parts of the country.—G. J. SYMONS.

COVENT GARDEN MARKET.—OCTOBER 17.

A VERY dull market the last few days, large quantities of Apples remaining on hand, reduced prices failing to effect a clearance. Kent Cobs a good sale, quotations fully maintained.

FRUIT.

		s.	d.	s.	d.			s.	d.	s.	d.
Apples.....	½ sieve	1	6 to 3	6		Melons.....	each	1	6 to 4	0	0
Apricots.....	dozen	0	0	0	0	Nectarines....	dozen	4	0	18	0
Chestnuts.....	bushel	0	0	0	0	Oranges.....	dozen	10	10	0	0
Currants.....	½ sieve	0	0	0	0	Peaches.....	dozen	3	0	24	0
Black.....	½ sieve	0	0	0	0	Pears, kitchen..	dozen	1	0	8	0
Figs.....	dozen	1	0	3	0	dessert.....	dozen	2	0	4	0
Filberts.....	lb.	0	4	0	6	Pine Apples...	½ sieve	10	0	12	0
Gooseberries..	lb.	0	4	0	6	Plums.....	lb.	5	0	8	0
Grapes, hothouse	lb.	1	6	0	6	Raspberries....	lb.	0	0	8	0
Lemons.....	£ 100	6	0	10	0	Walnuts.....	bushel	5	0	8	0
						ditto.....	£ 100	0	0	0	0

WEEKLY CALENDAR.

Day of Month.	Day of Week.	OCTOBER 25—31, 1877.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
25	TH		55.9	38.5	47.2	6 44	4 45	5 51	10 47	19	15 50	298
26	F		55.6	38.5	46.1	6 45	4 45	6 45	11 54	20	15 56	299
27	S	J. Strutt born,	55.1	38.4	46.7	6 47	4 41	7 55	0 48	21	16 2	300
28	SUN	22 SUNDAY AFTER TRINITY.	54.5	35.9	45.2	6 49	4 39	9 17	1 26	22	16 7	301
29	M		54.0	35.7	44.8	6 51	4 37	10 44	1 54	(	16 11	302
30	TU	Sale of Mr. Ralli's plants at Cleveland House, Clapham	54.9	38.3	46.8	6 53	4 35	morn.	2 15	24	16 14	303
31	W	Sale of Bulbs at Stevens's Rooms. [Park.	54.0	38.0	46.0	6 54	4 33	0 11	2 31	25	16 17	304

From observations taken near London during forty-three years, the average day temperature of the week is 54.8°; and its night temperature 37.3°.

PREPARING FOR WINTER IN THE KITCHEN GARDEN.



ANY owners of gardens, especially those of the amateur class, think that when the kitchen-garden quarters are cleared of their summer crops it is not necessary to do anything to the ground until it is wanted again for next year's crop. This is certainly the easiest way of gardening, but it is not by any means the best either for the ground or what has to be put in it, nor those that expect anything out of it. Turning over

the soil and leaving it as rough on the surface as possible is the first thing we do at this time of the year as the ground is cleared of any kind of vegetable. The ground is very firm on the surface after most crops have been removed; if left like this during the winter neither frost nor wind, both excellent fertilisers, would ever penetrate beyond the surface. Heavy land especially is greatly benefited by exposure to the atmosphere in winter, and the lightest of soils is sweetened. We do not dig-in any manure now, as much of it would be decayed by cropping-time. This is put in when the ground is again dug, immediately before the crop is put in.

Not a weed should be allowed to grow amongst any winter vegetables, especially amongst low-growing crops, such as Spinach, Turnips, Endive, Lettuce, &c., as the more these are sheltered, drawn-up, or protected in any way now, they will be the more tender in the colder months to come. Plants are also much more liable to damp and decay when closely surrounded by weeds than when everything is clear about them. One good cleaning now will keep them right for the winter. Weeds look as untidy in the kitchen garden in winter as summer. Those on the ground now will grow if left all winter, but if they are cleared away now no more will spring up for some months.

We lifted all our Carrots the other day; it is not wise to leave them in the ground after the end of this month. Clean the soil roughly off them as they are dug up, lay them out thinly in an open shed for a few days to dry, and then store them in a cool shed or cellar, putting layer after layer amongst dry river sand. Beetroot is stored in the same manner, but when it is lifted the leaves are not cut off close to the crown like the Carrots, but they are twisted off with the hand a few inches from the crown to prevent bleeding. When cut close they lose much of their juice. Parsnips we leave in the ground all winter, only lifting a few when frost threatens. Salsify is treated in the same way. Onions have been under cover for some time; most of them are strung and hung up in a shed. This is the best way of keeping them.

Young Cauliflower plants for early spring planting are dibbed closely together in a two-light frame. The lights are never put on unless in a continuance of rain or frost. Sometimes we never cover them with glass at all, but put a hurdle over the frame in hard weather and cover it over with dry bracken. This reminds me that this is

one of the very best covering materials. Wherever it can be had, no time should be lost in cutting and laying in a large rick of it. There are some hundreds of acres in the deer park attached to the Castle here covered with bracken, so we have no difficulty in getting what we want. It is an excellent protector and not so littery as straw. We not only use it for frames, but spread it lightly over Lettuce, Endive, and such-like things when frost occurs, and find it answer capitally.

Small Lettuce, to stand the winter and plant-out for the early spring supply, should never be protected excepting when it is actually necessary. Ours remain in the bed in a south border in which they were sown until they are finally planted. Many err in covering up these kind of things now when there is no frost but only a little cold at night; this blanches them and makes them tender, when they should be hardened to withstand the frost.

Care should be taken not to over-earth Celery; always leave the centre above the soil, or the centre heart may decay in the damp days in winter. In the time of snow or frost bracken is an effectual covering for Celery.

Begin blanching Endive some weeks before it is wanted. In dry weather it is a good plan to tie the whole of the leaves up in a bundle at the top. In wet weather the centre often rots when tied up. Previous to the middle of October we tie them up; after that time we lay thin deal strips over each row, and blanch it in this way.

As soon as Asparagus stems begin to wither they should all be cut off, the bed cleared of weeds, and then covered over to the depth of 2 or 3 inches with rich dung. We shall begin lifting the roots for forcing the first week in November, to have a good batch of it in by Christmas.

Peas and Dwarf Kidney Beans are nearly over; stakes from these, if not rotten, may be stored away for mixing amongst new ones next year. Our outside Dwarf Beans are succeeded by those in deep frames, and seed will be sown in pots about the end of this month to come in about Christmas when the kitchen delicacies are scarce. Rhubarb should be covered over like Asparagus.

All kinds of Winter Greens should be gone over every other week and all decayed leaves removed. By breaking and turning a few leaves over the heads of Broccoli when they are beginning to show through the small centre leaves, they keep for several weeks longer than when left exposed to the weather. Cabbages to come in about May next year may yet be planted. Dutch-hoe frequently amongst those planted some weeks ago, and as soon as they are tall enough draw a little soil to their stems.

Globe Artichokes should be cut down to about 1 foot from the ground, then pack some bracken or long litter close round the stems without covering the top. Jerusalem Artichokes we leave in the ground and lift as required.

Old plantations of Strawberries should be trenched down 2 feet at once. Leave the soil rough on the surface as in digging. I do not see many recommending it, but we always fork-in a quantity of manure between our Strawberry rows about this time. Strawberries which

have been planted for two or three years require assisting with manure, and I find it does them most good when forked-in about 2 inches below the surface.

Fruit trees we never plant until the leaves are fallen, but preparation may be made for planting them now by getting some good loam together, and chop it up ready for putting to the roots as soon as planting begins.—A KITCHEN GARDENER.

TEA ROSES.

I AM of opinion, from the little experience I have had with Tea Roses, that a great future is in store for them and us. I believe they have never yet been grown to anything like perfection. They are often worked on the wrong stock, generally placed in a wrong position, and always coddled too much.

They will not last long on the Manetti unless they are planted sufficiently deep to form roots of their own above the union. As standards they are generally miserable objects; on cultivated seedling or cutting-Briars as dwarfs they do fairly well under favourable conditions; but where the soil is suitable I prefer them, as I do Perpetuals, on their own roots. Indeed Tea Roses on their own roots have more advantages than Perpetuals have, because the very life of a Tea Rose is its suckers. When it ceases to throw-up strong shoots from the base it is nearly all over with it.

Cuttings are very easy to strike. July and August are perhaps the best months to insert them, as they only require a hand-glass and a little shade, but half-ripened shoots will strike freely at any time in a cold close frame. I prefer getting them rooted, potted-off, and partially hardened before winter, giving them just sufficient shelter to prevent them losing their leaves during the first winter, and potting them on in January, never allowing them to become anything like pot-bound or stunted, for if such a thing once happens they are afterwards only fit to be thrown away.

If intended for planting-out, 8-inch pots will do for them, and are none too large, as they ought not to be planted-out before the end of May, and then if all goes on well they will produce some good flowers in the autumn. If intended to be grown in pots the above size is not large enough to carry them through the summer, and they ought, if want of indoor space prevents it in the spring, to be placed in pots 10 or 12 inches in diameter early in summer. I have a batch of plants, little more than twelve months old now, which have produced a few fine blooms through the summer, and promise to make large plants in the spring. They have lately been shifted into 14-inch pots, and will be kept in a house where the frost is merely excluded. They will not cease growing under these conditions, and will throw-up a few odd flowers through the winter and bloom profusely in April and May, or earlier if assisted with a very little warmth. Forcing spoils them.

The soil used and recommended is fresh turfy loam, mostly in pieces from the size of a hen's egg to that of half a brick, a good sprinkling of half-inch boiled bones, and a little charcoal.

For Tea Roses out of doors I believe the best possible position, in the southern and western counties at least, is a well-drained north border adjoining a hothouse or other building, to the walls of which the shoots can be tacked and be free from much frost and also much sun, while they enjoy full exposure to the air. Amongst several plants in such a position a temporary roof was erected over one last winter, and that very plant, selected because it was a good one, was the first to have mildew and has done the worst ever since.—WM. TAYLOR.

TRANSPLANTING FRUIT TREES.

In the description of the destruction of property during the late hurricane mention is made of the uprooting of hundreds of Apple trees in Herefordshire; but unless these trees were old I should think that this accident may turn out beneficial rather than otherwise. It is proverbially an ill wind that blows nobody good. Has not Nature, in this case of uprooting Apple trees, herself done what cultivators have been so often enjoined to do in vain? Will not trees when replanted be more likely to yield fruit in future years? I have myself this year gathered delicious Apples from a tree which was transplanted two years ago; but my experience has been not so much with Apple trees as with Peaches and Nectarines in the orchard house, and it has taught me that an uplifting of trees planted in the ground in alternate years is a good preventive against the growth of gross wood. Trees will grow thus if not discreetly checked. It is one of the arts of orchard-

house culture to restrain over-luxuriance, for those gross shoots which look so well to an inexperienced eye produce only barren shade. The Romans knew this full well. Your classical readers will no doubt remember the lines in which a youthful poet—after describing the causes of such fertility, that Bacchus wondered at his own Grapes and Minerva at her own Olives, and the weight of the fruit was so great as to threaten to break the branch unless a prop were placed underneath it for its support—proceeds:—

"But since the Plane tree, whose umbrageous leaves
Afford a barren shade, most praise receives,
We too the bearing trees, if such am I,
Broader and more luxuriant leaves supply."

Now mark the result:—

"And now no crop is gathered year by year."

My advice is, any time after the leaves have fallen, lift all those trees which have been making gross shoots. I urge this, not because it is a novel expedient, for it has long been recommended by the best authorities, but because I have found it by my own personal experience to answer, and now is the time to be thinking about it. Take that opportunity to give your trees a good winter dressing, so as to keep them free from scale, aphides, and red spider. Gishurst is a good compound for that purpose.

I ventured in the earlier part of the season to give your readers some account of the quantity of fruit in my orchard house this year. Out of the 1600 fruits I suppose as many as 500 fell off in the stoning, but the remainder proved excellent in quality; no sleepy Peaches, no woolly ones, but all luscious. One Peach in particular (not one of those turnips that you sometimes see among the clingstones in October, but soft and melting) measured 11½ inches in circumference. While so many lost their hopes of a crop in the spring I attribute the preservation of mine to the good effect of lamp stoves in keeping out the May frosts. I find in my cordon border along a back wall 12 feet high an alternation of trees in 20-inch pots with those in the ground a satisfactory arrangement in the case of single cordons.—H. W. HODSON, *Ashwell Rectory*.

WINTERING GERANIUMS.

WHENEVER I see information given on wintering these plants I note that it is not of an encouraging kind to "small people" like myself, and yet those are the very people who are chiefly interested. A light place would, according to our instructors, appear to be indispensable, such as a greenhouse. No doubt a greenhouse is a great advantage to a garden, and is the best place for Geraniums; but I have wintered hundreds of plants without their having been in a greenhouse, and they have proved very useful. I have a greenhouse it is true, and this I fill with Geraniums—young plants which are struck in August. These are wintered in boxes, and in March they are "turved" (not potted) and placed in turf pits. These make fine plants, which commence flowering early and are planted in the more prominent positions in the garden. But several hundreds of plants are required in addition to those for planting in borders and beds in different parts of the garden, and these are provided on a plan which may be a rough one, but which is none the less useful, for the plants secured by it make a fine late summer and autumn display.

The plants are simply taken up in October and are divested of all the fibrous roots. The tops are also cut off, leaving not more than half an inch of the main shoots. The wood there is quite brown and hard, and is not prone to decay; at any rate, decay is prevented by dressing the wounds with dry fresh lime at the time the plants are cut down. These stumps—for stumps they are—are closely packed in boxes of moderately moist soil, which is placed firmly round the roots. By making the soil firm sufficient moisture is retained to keep the stumps fresh without watering them during the winter. If the soil is loose it speedily becomes dry, and when water is applied in winter decay succeeds.

The boxes are placed in an old building which is nearly dark and nearly frost-proof, and all that is required to preserve the Geraniums is to cover them with perfectly dry hay during severe weather. They are examined occasionally, and if there is any evidence of mould a prompt application of dry lime checks it at once.

Eventually buds are formed on the stumps, and shoots succeed—white if in the dark, green if under the influence of light. The great source of danger consists in the eyes pushing too soon and before the boxes can safely be removed to a light

position, such as a turf pit or cold frame. The best means of averting this danger is deferring the cutting-down and boxing to as late a period as possible. If the plants are cut down and placed in the boxes during the first week in October fresh growth will commence in November if the weather is mild, and failure is then likely to result; but if the work is not done until the last week in the month, then the eyes remain dormant until January, which is a great advantage, for before the shoots become drawn the boxes can be placed in a light position.

They are removed to pits and frames as early in the spring as possible. Some are potted, some inserted in square turves, and some replanted thinly in boxes in light fresh soil. They then make fresh roots quickly and grow as freely as weather will permit. The shoots are thinned out; this is important, and fine plants are produced by the end of May. When the boxes of plants are brought from their winter quarters they are placed under glass for a time, at least as many of them as can be so accommodated, and the others are protected as best they can be. Some of these die, but many live and flourish.

I learned this plan of preserving Geraniums in a nobleman's garden where thousands of plants were thus wintered and managed annually, and I have seen it successfully practised by a cobbler who has no glass except the windows of his shop and dwelling, and his garden is far brighter than those of his neighbours.

In cutting employ a very sharp knife, and cut the branches off where they are quite hard and close to the main stem. Trim the roots somewhat in the same proportion, removing the soft fibres, and with a little attention the unsightly stumps will in a few months become attractive plants.—A GROOM AND GARDENER.

THE POTATO DISEASE.

ANYONE using gas lime as recommended by your correspondent "W. G." (page 287), believing it will prevent the Potato disease, will, I fear, be disappointed with the result. We have used it in the following manner without success.

The end of last autumn we had a plot intended for Potatoes dressed with gas lime, using, as near as we can judge, 1 cwt. to a pole of ground. The lime was left exposed to the weather during the winter. In spring the plot had a heavy dressing of old decayed vegetable soil. The soil had been prepared in winter by being turned and well mixed with a good dusting of gas lime. In March this was dug in, and Potatoes planted at the time of digging. I have never seen Potatoes so badly diseased as they were this season from that plot treated as I have described. We did not use lime thinking it would prevent disease, but to check wireworm, which it did to a great extent.—THOMAS COOMBER.

FLOWER GARDEN NOTES.—No. 2.

AFTER the early part of August we had rain almost daily, July being a wet month, telling disastrously upon Roses, yet we had some fair flowers, some, indeed, fine. The best were Alfred Colomb, François Michelin, La France, Baroness Rothschild, Marquise de Castellane, Sénateur Vaisse, Charles Lefebvre, Madame Lacharme, Madame Victor Verdier, Dupuy-Jamain, Claude Levet, Thomas Mills, John Hopper, Prince Camille de Rohan, Boule de Neige, Etienne Levet, Comtesse d'Oxford, Exposition de Brie, Queen Victoria, François Courtin, Jean Dalmais, Edward Morren, Louis Van Houtte, Maréchal Vailant, Charles Rouillard, Baronne Louise Uxkull, Annie Laxton, Felicien David, Miller Hayes, Thomas Methven, Marquise de Chambon, Madame Chirard, Madame Boll, Madame Clert, La Ville de St. Denis, Duchesse de Caylus, Dr. Andry, Capitaine Christy, Baronne de Prailly, Bessie Johnson, May Turner, Arthur Oger, La Souveraine, Antoine Moutin, Sir Garnet Wolseley, Princess Antoinette Strozio, Mariette Biolay, Miss Hassard, and Olga Marix. Gloire de Dijon was, as usual, fine as to flowering, but the summer blooms were all "quartered," scarcely a flower passable, yet it fully redeemed its character in September, and is now (October) giving some good blooms, being the best of the few autumn bloomers we have this year, followed by Alfred Colomb, La France, Charles Lefebvre, Olga Marix, Sénateur Vaisse, Baroness Rothschild, Boule de Neige, Thomas Mills, François Michelin, François Courtin, John Hopper, and Madame Lacharme. The Bourbons have plenty of buds all "glued" up, or very imperfect flowers. They seldom do any good in autumn in this part (North Riding of

Yorkshire), it being usually too cold and wet. The best this year have been Reine Victoria, Baron Gonella, Sir Joseph Paxton, Armosa, Catherine Guillot, and Louis Margottin. None have stood the wet and cold better or so well as the old Blush or common China, which is really very pretty in the bud, and forms a fine bed; Cramoisie Superieure also forming a fine mass. The continual downpour was too much for the foliage, which was to a great extent mildewed; the parasites and the wet weather combined have stripped many plants of their leaves, they being as bare of foliage now as we usually find them here in December.

Gladioli of the Ramosus section did not flower until the early part of September, and are more irregular in flowering than has been the case previously. I do not consider the plants of the same kind not all flowering together any drawback, but rather advantageous, as the continuity of flowering is considerably prolonged, there being fully a month between the first to flower and last—indeed more, some not having flowered as yet (October 6th), being later than many kinds of Gandavensis. The spikes of Ramosus are much more useful for cutting than those of the more shapely Gandavensis vars., some of them, as Ne Plus Ultra, having a fine branching habit, which amounts to as many parts for cutting as there are branches, and a spike or branchlet with two or three expanded flowers is as useful for vases as a spike as many feet in length. I usually cut the spikes when the lowest flowers on the spike are fully expanded. The peeping flowers are an attraction, they opening as certainly in a cut state as upon the plant; in fact, the spikes last a long time, as we have only each time the vases are supplied to remove the faded flowers, cut off a corresponding length from the stem, and the spike is as good as the day it was first cut, and continues until every bud is blown. No flower surpasses the Gladiolus as a cut flower. The Gladioli season is opened early in June with Byzantinus, Communis albus, Communis roseus, Blandus, which has the advantage of being sweet; Cardinalis and its variety roseus, and Colvilli with its variety alba, certainly one of the finest for cutting. These are all hardy, succeeding in any well-drained soil, planted about 4 inches deep. They increase rapidly, forming fine clumps, which require to be taken up about every fourth year and divided. September or early October at the latest is the time for renewing the clumps. Fresh-planted bulbs are not nearly so effective the first season as subsequently; indeed, they annually increase in effect as the masses become established. They do well in peaty soils and sandy loams well drained.

The Ramosus hybrids are almost equally hardy, and ought not to be taken up annually, nor at all only for purposes of increase, and then planted again as soon as possible. I planted dry bulbs this year and have lost several from "yellows," being unable to account for the irregularity of flowering in no other way than that the roots had been taken up before they were matured. When left in the ground I do not remember to have seen a single plant collapse of "yellows." I shall leave the Ramosus vars. in the ground, and have some hankering after trying the Gandavensis vars. in the same way, as our soil appears to suit the bulbs well, being a vegetable one of a sandy character overlying a cool bottom. A neighbour leaves his bulbs in the ground, the soil being well drained; "All that is wanted," he says, "is a free open soil and situation sheltered from winds, mulch, and watering copiously during growth." All I can say is, my friend has some grand spikes and laughs at the mention of "yellows." Taking up, he insists, is only necessary in heavy wet soils and for trade purposes. "It only weakens the bulbs, late planting and early lifting ruining them." Be that as it may, over-stimulation may have something to do with it, and so it will ever be with plants cultivated upon the high-feeding system essential to secure the spike and flowers that can only satisfy exhibitors. There is one peculiarity of Ramosus vars. that is not often recognised—namely, they last longer in bloom than Gandavensis vars., the family giving matchless spikes for cutting from June to December, the cutting not impairing but adding to the vigour of the bulbs in a future season.

Phloxes, herbaceous, were kept from flowering by the rain and cold, and it is a flower that will stand as much wet weather as most; but the end of September setting in fine, and October promising to be a real Michaelmas summer, the plants recovered wonderfully and produced some immense heads of flowers, finer indeed than at any earlier date. It is surprising how the roots increase, what great clumps they become; a mass a yard across and as much or more high, with a hundred stems, each sup-

porting a bouquet of flowers, make a grand display in herbaceous or shrubby borders. All they require is a free soil liberally manured and an open situation. No plants surpass them for affording a quantity of effective beautiful flowers with so little trouble and expense. The only trouble is to keep the clumps within bounds and manure in mulch form liberally. A collection, or rather selection, should be in every garden, alike for effect and cutting from.

Pyrethrums were fine in June, but the late-summer or autumn flowers have not made their appearance. There is no plant that slugs are so fond of as this; to keep them under sprinklings of soot should be given, and in winter some sharp ashes placed around the crowns are a good application, as the pests when having their own way make quick work of the plants. Dusting with quicklime destroys all the slugs it falls upon.

Pinks did well, but Carnations, especially Cloves, were much damaged by the wet, the flowers rotting; those having the fullest flowers—i.e., most petals—were glued up, those rather thin opening more freely. The end of September and early October (the promise being yet good) being finer than any previously. Their great beauty and fragrance are always appreciated; indeed no flower, excepting the Rose, is held in higher esteem.

Stocks had their central spikes good, when the wet completely converted them into a rotten mass; the flowers being individually large only helped the ruin. The plants struggled on bravely, and are now finer than I have ever seen any in October. The per-centage of single to double-flowering plants was greater than usual. I consider fully two-thirds of the plants had single flowers, a characteristic of Stocks in general this season.

Aschers did not so much as show colour until the close of September, it being remarkable what an influence sun exerts upon plants, and surprising what a few days' bright weather effects. The season has certainly been too cold for them.

Marigolds have given very indifferent flowers—very coarse and badly marked. An improvement has been induced by the weather. September shows should this year have been held in October. African Marigolds stood the weather much better than the French.

Dahlias, notwithstanding the wet, have flowered well and grown strongly. The Dahlia is one of the very best of flowers for a display in late summer, the dwarf varieties making grand beds, and the bouquet sorts are truly superb for decorative purposes.

Verbenas have been wretched, the great trussed kinds being the worst, and the pips of none can long withstand rain. The erect growers, as Lord Raglan, have been the best; those of prostrate habit have done nothing but grow.

Scabious, than which there are not many sweeter useful flowers for cutting, grew luxuriantly, and are now rewarding with a profusion of perfect half balls in various shades of colour. I wonder prizes are not offered at late summer shows for cut blooms. They are handsomer and in greater variety of colour than Marigolds.

Phlox Drummondii made strong growths. These are really very useful and effective plants with a great diversity of colour and marking. Prizes for a dozen heads of flowers—distinct varieties—should form part of the schedule of all late summer shows. The flowers withstood the wet well, and will continue flowering until frost.

Sweet Peas, which combine delicate sweetness with beauty of flower, were practically useless until late September, when they flowered profusely. I would even offer prizes for these as cut flowers—any and every plant in fact that affords variety, being of a useful decorative character—with a view to encourage a taste for those plants within the reach of everyone. Double Jacobæa, double Indian Pinks, and many others may be named as very effective and of the easiest culture, that are well worth the attention of the framers of schedules, whose chief aim appears to be to honour what are chiefly luxuries of the wealthy, instead of fostering a taste for hardy plants at the command of everyone possessed of garden grounds. Great sums as prizes for material that is more to be measured by the means at command than upon the skill required in cultivation lead but to one result—the bringing-out of "lions" paraded from one show to another, the same plants doing the grower or purchaser justice for years. It frustrates the aims of the promoters—the advancement of horticulture, and its dissemination among the masses.

Hollyhocks may, as regards flowering, be put down a failure. Not a flower expanded until October; but as it is said to be

"better late than never," so it may be with this stately flower. Taken altogether there are more flowers this year in October than at any earlier period. The weather appears to have suited very few plants; notable exceptions are the Primula family, Daisies, and the genus Viola. Pansies are blooming as freely now as in early summer. I had some seed of the French Impératrice Eugénie, and such a mottled, dotted, striped variety of flower I have not before seen, nor in so great variety of colour. No one can but be interested by such great diversity of flowers, some of them being really marvels of tint and shades of colour, a few having really well-formed flowers. They beat the Belgians hollow.

There is a great promise of Violets (Victoria Regina and Neapolitan), and we have been gathering them since the middle of September. Hardy spring flowers are remarkably vigorous, giving promise of a great bloom in due season.—A.

NEW HYACINTH GLASS.

MESSES. STEVENS & WILLIAMS of Brierley Hill Glass



Fig. 62.

Works, Staffordshire, have recently registered a new Hyacinth glass with support, of which we append an engraving. When not required for Hyacinths the glass can be used for cut flowers. The rod does not at all interfere with the bulb, as it can be applied by means of a spring outside the glass, thus obviating the employment of any hooks or screws. The supports for the leaves and flowers are made of brass bands, the flat sides of which alone touch the plant. By this means accidental bruising or cutting is prevented. These supports are also so arranged that they are able to slide up and down. The top support is capable of admitting the spike of the flower without any difficulty, and it is at the same time of sufficient strength and firmness to uphold the largest Hyacinth.

IMPROVEMENT OF LIGHT SOILS.

It is just possible that the statement of "CIRENCESTER AMATEUR" on page 290 in last week's number may deter some readers of the Journal, whose garden soil is too light to produce good Strawberries, from trying the great improvement they may effect at a slight cost by surface-dressing their soil with a moderate quantity of clay in preference to burying it, otherwise I would waste neither your space nor my time in noticing his assertion that "it would be necessary to go at least 5 feet deep," &c. Deep cultivation is all very well, but has anyone ever prepared a bed for Strawberries 5 feet deep? We may next be called upon to prepare for Radishes yards long, and Carrots running down to the greensand. But after all, in such a matter no amount of argument is worth one carefully conducted experiment.

Let anyone make a bed on light soil according to "CIRENCESTER AMATEUR's" instructions of any novelty he recommends, and prepare a similar bed for British Queen by spreading 3 or 4 inches of clay on the surface, leaving it exposed for the winter, and then mixing it in with the top spit just before planting, which should be done with runners from a nursery bed early in the spring. The next season, immediately after the fruit is gathered, the plants are to be dug up and replaced with the earliest runners that can be obtained, or plants from a reserve bed the same as the first season, and so on for a season or two, till it is evident whether the permanent bed of novelties, said to be suited to light soils, or the British Queens are the best.

Three or four inches of clay will practically convert the top spit into loam. After some years I should trench and clay again. In most districts a little judgment and forethought will provide all the clay that may be required at a trifling cost; but if every load has to be carted from a distance I should adopt a plan, which I believe is carried out at Loxford Hall gardens by Mr. Douglas, of placing a shovelful of strong loam round the roots of each plant as it is put out. Few of your readers can have worse soil to contend with or produce better results.—ESSEX.

FILBERT CULTURE IN KENT.

THE Filbert (*Corylus avellana*)—a corruption of "full beard," as it was originally styled, to distinguish it from smaller nuts—so highly appreciated at dessert, is cultivated extensively in the neighbourhood of Maidstone. It is not grown to any extent beyond a circuit of seven or eight miles round that town, though there are a few plantations at Ightham, about thirteen miles north-west of it, and in the West Kent fruit-growing district. It does well upon the soils of the ragstone, but thrives exceedingly upon the Atherfield clay, locally called the "coomb," which has been described as follows by a practical farmer:—"There is a very narrow belt of land running along the escarpment of the ragstone, which, though of a very heavy and adhesive texture, is astonishingly productive in Hops, fruit, and grain." The situation best suited is a southern slope, sheltered from rough winds, which are apt to snap off the delicate shoots in the early spring and bruise the blossoms. Filbert trees are always grown on cultivated land, planted under standard Apple, Pear, and Plum trees. Fruit bushes are generally planted as well. Filbert trees are set about 18 feet apart, giving 257 trees to the acre: they are invariably propagated by suckers obtained from old trees, and put in nurseries until they are two or three years old, being carefully pruned and trained to the required form.

The first operation in an established Filbert plat is to open a small trench round each tree, to get the suckers or "spawns" from off the roots and lower part of the stems. Rags, shoddy, fur-waste, sprats, "sheep-trotters," hop-bines, are used for manure. Digging the land is done with the spud peculiar to Kent, before Christmas if possible; before the trees are pruned, that the bloom, which appears very early, may not be rubbed off. Pruning or cutting Filbert trees is a most elaborate process. Each branch is examined by the tree-cutter, who leaves the finest young wood that he sees, or ought to see at a glance if he knows his business, to be bloom-bearing, and cuts away all wood of coarser, older growth, comparatively unfruitful. The "bloom," or cluster of pistilline flowers, is remarkably pretty, like a small scarlet star upon the extremities of the shoots. It is fertilised by the "catkins," as the staminate flowers are called, growing on the same branches, some of which are left by the judicious cutter. After the pruning the trees look mere skeletons. A stranger who had seen Filbert trees thus naked and forlorn in the winter would be surprised to see them in September with a wonderful wealth of leaves, branches, and nuts upon them. A typical tree has a stem of about 2 feet in height, from which the branches are trained to spread out laterally, and to form a centre of a saucer-like shoot, with a diameter of 7 or 8 feet, and a height of about 6 feet. After pruning, nothing is done until July, when most growers have the long suckers taken from the middle of the trees, and the leading shoots are broken off to relieve them from the burden of supporting unproductive wood. Mr. Webb states that he saw some Filbert trees near Maidstone which had grown 40 lbs. of nuts on each tree. A crop of a ton, or even more, is occasionally grown; but the average yield may be set at about 8 cwts. per acre.

Filberts are frequently sold on the trees, as the growers have Hops to attend to, and do not want the trouble of picking and selling them at the busiest time of the year. They are for the most part sent to Covent Garden in sieves which hold about 28 lbs. of green and 40 lbs. of ripe or harvested nuts. It is customary to send a portion of the crops to London when the bunches are quite green, and the kernel not by any means developed. There is a certain demand for these, as they look well on the table, though at this time they have but a mere *soupeon* of the true Filbert flavour. When Filberts sell well at this stage some growers send their whole crop up, as the weight of green nuts is nearly double that they would have if duly harvested.

Prices of Filberts range from 5d. to 1s. per lb., according

to the supply. They are not much influenced by the competition of foreign nuts, none of which have the flavour or the appearance of the genuine Kentish Filberts, although the quantity of nuts of all kinds imported is very large. The value of the imports of this duty-free fruit, which chiefly comes from Belgium, France, and Brazil, amounted to £584,325 in 1875, as against £408,291 in 1871.

The Kent Cobnut, or Lambert's Filbert, is superseding the old-fashioned Filbert in a degree, and is generally preferred for new plantations; it is a much larger nut than the Filbert, with a thicker shell, and is a more hardy and more abundant bearer. As these trees do not thrive so well under standards as Filberts, they are now generally planted by themselves, with bushes under them, or with Plums, Damsons, or half-standard Apple trees. They are treated in the same way, requiring, perhaps, to be cut a little harder than Filbert trees. A casual observer would not notice the difference between Cob and Filbert trees, but their leaves are different; the whole growth of the former is more vigorous, and its "bloom," or pistilline cluster, is darker than the Filbert bloom. As a rule, Cobnuts make rather higher prices than the Filberts.—(*Royal Agricultural Society's Journal*.)

CHRYSANTHEMUMS FOR EXHIBITION.

As the shows of this fine autumn flower are approaching, a few hints on the management of exhibition blooms may not be inappropriate. Last year the best kinds opened very early, and such as Beverley, Aurea Multiflora, Prince Alfred, Queen of England, Empress of India, and several good varieties were over before showing commenced. This year the plants are a little later, and good stands ought to be forthcoming. I have frequently noticed flowers staged with very bad centres, some flat and reflexed, others with too much centre through not taking them in hand sooner. If the plants be looked over carefully, or rather the flowers, every day, taking each flower about fourteen days before it will be up in the centre, and take the eye carefully away with a pair of tweezers, then by tying the flower down facing the floor or stage will make a great difference in the appearance of it when wanted for the stand, especially such sorts as Queen of England, White Globe, Empress of India, Prince Alfred, and all the long-petaled varieties. It will also retard the flowers if getting too forward. Some will say flowers well grown should not have an eye, but it is almost impossible to grow them without. Also, when the flower comes very full without an eye the middle of the flower often spoils a stand through the petals being small and often of another tint of colour; therefore, all this should be removed as I said above, and in the same manner as the eye. It will be found that the space will soon be covered by the other petals. Such kinds as Aurea Multiflora, George Glenny, and Mrs. G. Rundle seldom want dressing at all unless exposed to too much sun, which is very injurious when the flowers are erect; but if suspended will not injure them so much. This will be found a far better practice than to place the blooms in dark sheds and cupboards, as I have seen done frequently, which destroys the colour of the flower before half open. I have seen Golden Eagle, Rev. J. Dix, Princess of Wales, and other varieties exhibited with not an atom of their true colour left through being exposed too much to the sun.

The very best way to bloom the Chrysanthemum, to obtain superior flowers and good colour, is to place the plants in a vinery or Peach house, if span-roofed so much the better, placing the pots at the sides of the house and tying the plants to the wires, allowing the flowers to hang down. They will enable the cultivator to look into his flowers and keep them free from vermin much better than when the plants are crowded together in a large bed. I have written more for the instruction of the young beginner than for the experienced exhibitor.—J. P.

TEA ROSE NARCISSE.

I COULD never discern why this little gem of a Rose has not found more favour with the Rose-growing public. If I were asked to name one Rose for general usefulness I should not hesitate for a moment to say Narcisse. I am fully aware of the "old Gloire's" claim. I do not forget many others; their worth is fully acknowledged when I say, Give me Narcisse for any of them.

"But it is a Tea," you will say, "it is too tender." Not a bit of it; it is as hardy as old Gloire, and such a little beauty,

when once you have it nothing will induce you to give it up. Its lovely soft, delicate, creamy-coloured buds render it a perfect button-hole flower. I have never found lady or gentleman that would not always have it before any Rose that I could give them, and most strange it seems, it was new to most if not all of them.

A gentleman said to me one day early in the summer, "Ah! how much I should like a house to grow such exquisite Rose buds as you always have." This very bud was plucked from an old standard some eight or ten years old, and had been replanted last autumn. This same old standard *Narcisse* has produced more Roses than any half-dozen Rose trees in the place. This says not a little for its hardiness. Its beautiful, clean, bright foliage stands out most conspicuous amongst all others in this most trying season of blights of all sorts. Never before did I see mildew and rust so bad as this season. Plant *Narcisse* in a sheltered situation, worked on the Briar, prune but little, feed it well, and you will have Roses early and late from it; in fact, it is difficult to go for a bud and be disappointed. I daresay I have had not less than four dozen buds off this same old tree this summer. No Rose is equal to it for bouquets. It is simply lovely so used; it is fine for ladies' hair as well as for placing in rooms, &c. May I not ask, Why is this good Rose not often met with?—J. TAYLOR, *Hardwicke Grange*.

GRAPES CRACKING.

At page 272 Mr. Harris seems to be of opinion that it is not within the compass of man to solve the mystery of Grapes cracking, and Mr. Inglis at page 285 is of opinion that atmospheric humidity is the cause. My theory to some extent clashes with both, still I hope to be able to bring forward facts which will substantiate my theory.

I believe there are varieties which are more liable to crack under certain conditions than others. Much, I believe, depends on the constitution of the variety.

Many will remember the humid state of the atmosphere last autumn, and how badly Grapes kept. I had a house with a few Black Hamburgs and White Frontignan still hanging in it. The Hamburgs were totally destroyed with crack and mould, but not one berry of the Frontignan was affected; and I believe that its firm Muscat flesh and dwarf habit just saved it, while the soft sappy berries of the Hamburgs had a greater affinity for the damp which brought their ruin. This result I believe rests entirely in the difference between the two Vines.

Cracking arises generally from two causes brought about by the same thing—the want of moisture at the root and in the house. After a spell of dry weather we generally have a spell of wet weather, which not only saturates the border but creates much moisture in the house. If the Vines have not been sufficiently supplied with water during the drought they will now gorge themselves at both roots and foliage. The skins of the berries having become hard and brittle from want of moisture will not expand suddenly, hence they crack. This applies more particularly to those varieties having a voracious nature, such as Madresfield Court, White Tokay, Lady Downe's, &c. Last season I had a clear proof of this. In a vinery I had a few Muscat Hamburg and Lady Downe's; the former is characteristic of being very moderate in its demands for feeding—so moderate, it is often not able to perfect more than half a crop; and although the border was deluged with rain, and the atmosphere at the point of saturation, not a single berry of this Grape either moulded or cracked, while, on the other hand, nearly all the Lady Downe's did. I believe the reason they cracked so badly was, they were kept too dry outside and in.

I have Madresfield Court grafted on Black Hamburg in an early house, where it gets lots of moisture, and I have little or no cracked berries. I know it was sparingly supplied with sap, as it never coloured right till after some of the Hamburgs were cut from the Vine; then it coloured, as if by magic, jet black.—B. G., *Co. Down*.

OUR BORDER FLOWERS—PHLOXWORTS.

THIS is one of the choicest of all the numerous families of our hardy border flowers. I believe we are indebted to the North American continent for the choicest of these our spring beauties. They are deserving of every attention that can be afforded them, and when well grown they cannot fail to give satisfaction. They attract attention by their compact habit,

bristle-like leaves and stems, and their carpet of lovely flowers in the sunny days of spring. I have proved their merits under a variety of circumstances. For indoor decoration in pots in early spring they are invaluable; and on sunny slopes, on the rockwork, or in the border, they are highly attractive. They are worthy of a place also on the exhibition table.

They are a very accommodating race of plants, and are of easy culture. They succeed well in any ordinary garden soil, but they are impatient of much moisture. For lines and edgings in the spring garden and for beds and patches they scarcely have an equal. They are quite at home on the limestone, and I think in such situations their flowers are particularly deep in colour. They are readily increased by division after flowering, or by cuttings during summer and autumn in well-drained pots in sandy soil, in a cold pit, or under hand-lights in a shady situation. They must be kept free from damp. I have never been able to increase them by seed—i.e., those dwarf spring-flowering varieties. I am not now alluding to the splendid kinds that belong to the florist-flower department, of which there are so many magnificent varieties in cultivation, but to our little spring gems.

One of their greatest recommendations is that they are cheap and within the reach of all who have any pretensions to spring gardening or border decoration. A bed of *Phlox verna*, known also by the names of *P. reptans* and *P. stolonifera*, rooting from the runner-joints like the Strawberry, is one of the most beautiful. *Phlox subulata*, with its white variety known as *P. Nelsoni*, make a charming pair. *Phlox frondosa* when in good trim gives us sheets of lovely pink flowers, lasting a long time in bloom; it is one of the very best rock plants we possess. *P. canadensis* is a useful plant; it is one of the tallest of the dwarf kinds, and deserves more attention than it is at present receiving. *P. procumbens*, *P. ovata*, and *P. suaveolens* are all worthy of extensive cultivation. *P. setacea* is one of the dwarfest growers of the family; there is a white variety of this species, but it is of delicate constitution, and is seldom met with in cultivation.—VERTAS.

RAISING TREES FROM LEAVES.

THE first who made this art known was Agostino Mandirola, Doctor of Theology, an Italian minorite of the Franciscan order. In a small work upon gardening, printed for the first time at Vicenza, in duodecimo, in the year 1652, and which was reprinted afterwards in various places, he gave an account of his having produced trees from the leaves of the Cedar and Lemon, but he does not relate this circumstance as if he considered it to be a great discovery; on the contrary, he appears rather to think it a matter of very little importance. His book was soon translated into German, and his account copied by other writers, such as Böcker and Hohberg, who were at that time much read. A gardener of Augsburg, as we are told by Agricola, was the first who imitated this experiment, and proved the possibility of it to others. He is said to have tried it with good success in the garden of Count de Wratislau, Ambassador at Ratisbon from the Elector of Bohemia. But never was this experiment so often and so successfully repeated as in the garden of Baron de Munchausen at Swobblor. A young tree was obtained there from a leaf of the *Limona rivo*, which produced fruit the second year. It was sent to Mr. Volkamer at Nuremberg, who caused a drawing to be made from it, which was afterwards engraved, in order that it might be published in the third volume of his "Hesperides;" but as the author died shortly afterwards it was not printed. The exact drawing as it was then executed at Nuremberg, and an account of the whole process employed in the experiment at Swobblor, were published by the Baron de Munchausen himself from authentic papers in his grandfather's own handwriting. No one, however, attracted so much attention to this circumstance as the well-known George Andrew Agricola, physician at Ratisbon, who, with that confidence and prolixity which were peculiar to him, ventured to assert that trees could be propagated in the speediest manner by planting the leaves, after being steeped in a liquor he had invented; and for the truth of the assertion he referred to his own experience. Among the naturalists of that period none took more trouble to examine the possibility of this effect than Thunning, who endeavoured to prove that not only leaves with eyes left in them could in well-moistened earth throw out roots which would produce a stem, but that leaves also without eyes would grow up to be trees. Baron Munchausen, on the other hand, assures us that, according to the many experiments made in

his garden, one can only expect young plants from the leaves of those trees which do not bring forth buds; that experiments made with the leaves of the Lemon tree had alone succeeded, but never those made with the leaves of the Orange or Lime tree; and that Agricola and Thunberg had erroneously imagined that the leaves themselves shot up into trees, their midrib becoming the stem, and the collateral ribs or veins the branches. It is probable that the well-known multiplication of the Indian Fig gave the first idea of this experiment; for every joint of that plant stuck into the earth, and properly nurtured, throws out roots and grows. As these joints were commonly considered to be leaves, people tried whether other leaves would not grow in the same manner. Luckily those of the Lemon tree were chosen for this purpose, and what was expected took place. Thus from a false hypothesis have new truths been often derived; and thus was Kepler, by a false and even improbable opinion, led to an assertion, afterwards confirmed, that the periodical revolutions of the planets were in proportion to their distance from the sun. But the raising of trees from leaves was too rashly declared to be a method that might be generally employed, for it is certain that it now seldom succeeds.—W. R.—(*Journal of Forestry*.)

NOTES AND GLEANINGS.

THE importation of POTATOES this year is much larger than in 1876. In September of this year 184,459 cwt. were imported; and in the same month of last year, 176,348 cwt.

— AMONGST the many fine examples of Palms and Tree Ferns in the conservatory of Mr. B. S. Williams of Holloway is a noteworthy example of *TODEA AFRICANA*. The specimen has been recently imported. Its stem or trunk is about 5 feet high, is roughly triangular in form, and measures nearly 9 feet in circumference. It has seventeen crowns from whence healthy fronds issue, these measuring from 3 to 5 feet in length. The plant is a very striking feature in the conservatory, and is much admired by visitors on account of its singular form and venerable appearance.

— WE have received the REPORT ON THE BRISBANE BOTANIC GARDEN, and are pleased to see that it testifies to the successful management of its Curator, Mr. Walter Hill. The glass structures, the drainage, and other details have been improved; 104,000 cuttings, 22,000 roots and bulbs, 21,326 plants, and of seeds 1046 packets and 46 lbs. have been distributed among public and private establishments.

— AN American bouquetist observes that a very pretty and tasty BOUQUET for summer time may be made of scarlet Geranium, Begonia Weltoniensis, or some other pink flower, Catalonian Jasmine, Browallia elata (blue), and a few Fern leaves. The first two varieties should be used for base flowers, the next two for projecting, and the Ferns for edging. In making the bouquet alternate the scarlet Geranium and Begonia. It is immaterial that these flowers be packed together, as the Browallia and Catalonian Jasmine will make the bouquet light and graceful. These two should be cut from the plants with long stems, as the buds are almost as pretty as the flowers. They should be projected about 3 inches above the other blossoms. There should be about twice as much Jasmine as Browallia, as a very little blue will make a much greater effect than the same quantity of white. Edge the bouquet with some light and graceful Fern leaves, and a gratifying result will follow. A round-top nosegay is preferable to any other style when made as above described, because the projecting flowers show with greater effect.

— IN reply to "F.," who has sent us a M.S. on plants written by SIR JOHN HILL, it is sufficient to state that he was a physician, but wrote upon any subject the booksellers paid him for. Amongst his publications were poems which occasioned many satires, among the most clever of which were these:—

"The worst that we wish thee
For all thy vile crimes
Is to take thy own physic
And read thy own rhymes."

The rejoinder to which was—

"No! Let the order be reversed,
Or he'll not rue his crimes;
For if he takes his physic first
He'll never read his rhymes."

Sir John Hill died in 1775.

— THE American *Cultivator* truly observes that POTATO tops are valuable either as a green manure for ploughing under

or as an addition to the compost heap. The stem and leaves of the Potato contain a good per-centage of the most valuable organic and inorganic elements of plants. According to Fromberg 100 lbs. of the leaves in their natural state contain from 0.82 to 0.92 lbs. of nitrogen, or 100 lbs. of dry leaves contain 5.12 to 5.76 lbs. of nitrogen. By every ton of Potato tops ploughed under we add to the land about 50 lbs. of inorganic salts, and a quantity of organic matter containing 20 lbs. of nitrogen, or about 23 lbs. of ammonia. The best Ichaboe or inferior African guano yielded but 9 to 10 per cent. of ammonia, hence one ton of Potato tops may in this respect be compared to 250 lbs. of cheap guano.

— GLUE FOR DAMP ATMOSPHERES.—A glue, fast in damp atmosphere, for fastening labels on preserve bottles may be made by macerating five parts of good glue in from eighteen to twenty parts of water for a day, and then adding to the liquid nine parts of sugar candy and three parts of gum arabic. The mixture can be brushed upon paper while lukewarm; it keeps well, does not stick together, and when moistened adheres firmly to bottles. For labels to be used in places subject to damp it is well to prepare a paste of good flour and glue, to which linseed oil, varnish, and turpentine have been added, in the proportion of half an ounce to the pound. Labels prepared in the latter way do not fall off in damp places.

— WRITING to the "*Journal of Forestry*" on the importance of TRENCHING THE GROUND FOR TREES, "*THE SQUIRE'S OLD GARDENER*" narrates the following experience:—About twelve years ago a gentleman having determined to make a considerable number of clumps or plantations on various parts of the estate, it fell to my lot to see to the work being done in a proper manner. I advised my employer to have the whole of the ground trenched 2 feet deep, which he at once agreed to have done. The soil varied from good loam to stiff clay, and in some parts a shallow sandy soil resting on rock, the stone cropping up in places at less than a foot deep. Before the work of trenching was completed my employer was advised by a person in whom he had great confidence that I was putting him to a great deal of unnecessary expense, and that if holes were dug 2 feet wide and 1 foot deep it would answer the purpose, and act as well as the trenching I was giving it, and so the trenching was stopped, and holes were dug in the remainder of the ground, and the young trees were planted. They consisted of Spruce and Scotch Fir, Birch, Elm, and Poplar, as well as various kinds of dwarf shrubs, all being alike strong and healthy plants. The planting was done in November, and every tree lived for the first two years, all appearing to flourish alike; but then we had a very dry hot summer, when a change came quickly over the scene. Where the soil was trenched the trees seemed to revel in the heat, and sent their roots deep down into the good soil prepared for them, while the plantations on the ground not trenched appeared scorched and stunted and all growth stopped, many of the trees dying, and those that remained alive never recovered their former vigour.

IN THE NORTH.—No. 3.

NEWTON STEWART.

IN my report of the Galloway Rose Show I have alluded to the zeal for horticulture which is manifested in this far south-west corner of Scotland, and have spoken of one of the places in the neighbourhood where a good example of gardening is set, but I think a somewhat more detailed account of it and another of the country houses in the neighbourhood may not be uninteresting to the readers of the *Journal*. They do not pretend to be show places nor even to be great gardens, but they are none the less a proof of how widely extended is the love of gardening amongst us.

PENNINGHAME CASTLE.

This beautiful spot, the seat of Stopford Blair, Esq., is situated about four miles from the town of Newton Stewart amidst the most lovely wild scenery. Seeing it as we did on a brilliant day in July when it was looking at its best, we can well understand how much its owner must rejoice in it when escaping from the bustle of a London season. Doubtless it tells (like most country places, and especially those in mountainous districts) a very different tale when wintry weather prevails. The Castle stands on an elevated plateau overlooking the river Cree, and the view from the flower garden in front of the house commanding that of the windings of the river is very beautiful. The beds in the garden were well filled with

the usual bedding plants, although, like every other place that I have seen this year, they were three weeks behindhand. The houses are situated in the kitchen garden, which is walled in; and although small in extent, showed in all the departments the results of care and attention, which after all go a longer way in the ordering of most things, gardens included, than very great cleverness. Having with me two of our very best rosarians—Mr. George Paul of Cheshunt and Mr. Cant of Colchester—we had a talk over the curious way in which the Roses are affected, and to which I made allusion last year, the leaves all curling and blistering-up as if they would never do any good, but getting the better of it as the season advanced. We discussed the various causes that might effect it—the soil, want of manure, so that the plants were probably deficient in vigour, situation, &c.; but I think we all came to the conclusion that it was due to atmospheric changes. The cold north-

easterly winds, which, severe as they are everywhere, would when they occur perhaps be more injurious in so generally mild a climate; and yet there must be something also in the special situation, for I saw nothing of it among the other Rose-growers in the neighbourhood. My two companions were as much struck as I had been last year with the beautiful *Tropeolum speciosum*, which was full of bloom, and would, we were assured, so continue until cut down by frost. No matter what was the situation or position it thrived well: springing out of a gravel walk, under Apple trees, or on a warm border, it seemed alike to flourish, and displaying in all directions its brilliantly coloured scarlet flowers; but I imagine in our more southern climate that it will do best with a north aspect.

The season has been here, as everywhere, against the production of out-of-door fruits; but the various small fruits were abundant and all parts of the vegetable garden in good order

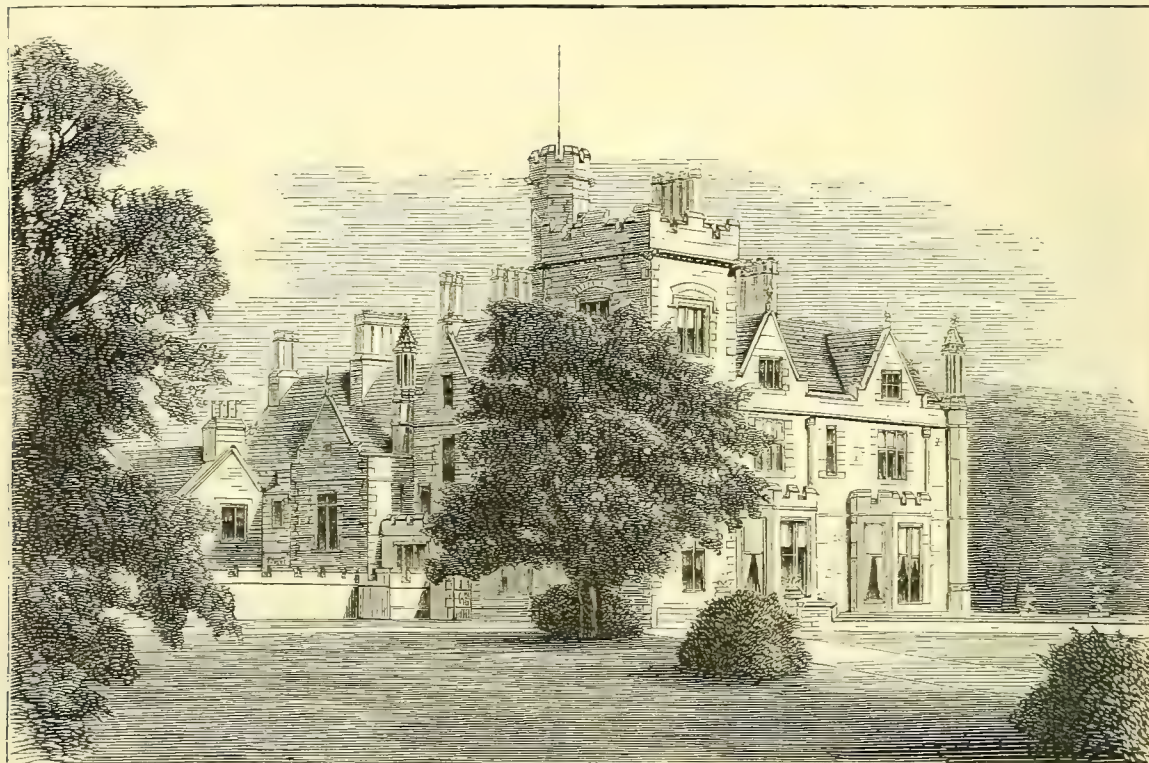


Fig. 63.—PENNINGHAME CASTLE.

and the cleanliness and order of everything reflected much credit on the painstaking gardener Mr. Duthie.

CAIRNSMORE,

The then residence of Mr. Stewart, whose death I saw announced the other day in the *Times*, is an old-fashioned place, but its laird was an accomplished botanist, and in his garden had managed to get together a fine collection of the old herbaceous plants that our fathers used to delight in. In an evil hour he engaged a gardener who looked upon all these things as weeds and nothing to be compared with the brilliant reds and yellows of the modern style of bedding-out, and so, as the old laird was not able to get about as he used to do, he had it somewhat in his own way. However, there is a dawn of better things, and the collection is gradually coming back to its former condition. The garden is large, the soil good, and both afford by their large wide borders great facilities for the growth of herbaceous plants. Amongst other things there was a bed of *Primula japonica*, which I was told when in bloom was the most brilliant thing imaginable. Fine clumps of the old *Dictamnus Fraxinella* were most beautiful. Lovely little bushes of *Menziesia* and the white variety of it, grand pieces of *Spiræa*, were here to be seen in full bloom; then as we walked round fine masses of *Delphinium*, *Phloxes*, and other plants of a similar character everywhere met the eye. It may be prejudice, but I cannot but think there is more pleasure

in going round such an old-fashioned garden as this and meeting everywhere some fresh beauty, than going to some spick-and-span place where there are fresh masses of colour and trimly arranged beds over which the scissors has so constantly to pass; for while in a kept garden there must of necessity be some violence done to natural growth, yet this excessive trimness is a violation of all the canons of good taste. *Rhododendrons*, of which there is an excellent collection of fine named varieties, flourish here, as do all shrubs, most vigorously.

I wrote last year of the difficulties under which my friend Mr. Mackenzie follows out his gardening tastes; let me only add this year that he is still manfully fighting against the rude elements, and has by his example done much to encourage the taste for horticulture in and around Newton Stewart. By-the-by, last year I said the town seemed to have no higher industry than sawing wood and curing bacon. Let me correct myself, for I was this year shown some of the most artistic and novel inventions in the way of toilet ware I have ever seen. The inventor is Mr. Vernon, and the great novelty of it consists in the letting-in of indiarubber to the bases of the jugs, basins, &c., used; so that they are perfectly noiseless, and the possibility of breakage reduced to a minimum. They are most artistic in design, and I have no doubt by-and-by when they come to be more fully known will meet with general adoption, and both Mr. Vernon and his fellow townsmen may be well

congratulated on the marked proof of inventive genius and talent they display.

In my notes of the Rose Show I have stated what I cannot but reiterate, that nowhere amongst my wanderings do I meet with more thorough kindheartedness and hospitality than amongst the lovers of gardening in this somewhat remote Scottish town; and in this I shall, I am sure, be joined by Messrs. George Paul and Cant, who were my companions on this occasion.—D., *Deal*.

DEATH OF MR. THOMAS RIVERS.

It is with feelings of great regret that we have this week to announce the death of Mr. Rivers of Sawbridgeworth, which took place on the evening of the 17th inst., about half-past eight o'clock, in the 80th year of his age.

now among the oldest existing in this country, were commenced some time between the years 1720 and 1730 by John Rivers, who was a native of Berkshire, and so they have been in the possession of the same family for a century and a half at least. The extent of the grounds at that time and for some years after was, like the beginning of most great enterprises, limited, and might be regarded as an easy-going common-run sort of country nursery, the produce of which consisted of anything, no matter what, by which an honest penny was to be earned. Fruit trees and forest trees for the neighbouring gentry, Cabbage plants for those who had gardens, and market-garden produce for those who had none; flowers, fruit, and nosegays were alike in readiness for all comers, and, that the tastes of each might be further gratified, one of the staple commodities was a glass of good currant wine. To such an extent did this last branch of the business become, that in 1761 we find his



Fig. 64.—MR. THOMAS RIVERS.

For a long time past the sad event was looked forward to by his family and those who were most intimate with them with feelings of sadness and of hope—of sadness at the prospect of parting, and of hope that a life of so much energy and usefulness would not be prolonged in a state of suffering; for during the last four or five years Mr. Rivers has been a confirmed invalid, and totally laid aside from work of any kind. Though his mental faculties were sound to the last he has long suffered from disuse of the lower limbs, and the disease from which he suffered appears to have been a sort of creeping paralysis, which gradually extended upwards till it reached the vital parts, and thus ended peacefully a life of marvellous energy, an intellect of no ordinary compass, and the work of one who has added perhaps as much as anyone to the pleasures and enjoyments of his fellow creatures.

Mr. Rivers was born at Sawbridgeworth on the 27th of December, 1798. He came of a long line of ancestors who had followed the same calling in the same place for nearly a century at the time of his birth. The nurseries, which are

son and successor, Thomas Rivers, actually built, for the preservation and maturation of his domestic vintage, an immense vaulted cellar, 30 feet long by 10 feet wide—a fact which he recorded, for the information of subsequent generations, on a square stone bearing the initials of his name and the date of the year when the event took place. The cellar is still in existence, and is now applied by the present proprietor for the purpose of a fruit room, and a very excellent one it is. The house at that time was known by the sign of "The Fox;"* and the swinging board, which for several years battled with many a summer's breeze and winter's blast, is still in possession of the family, having been converted into an article of household furniture; but the pictorial delineation of "The

* Many of our readers may not be aware that it was customary in those days, and for many years afterwards, for nurserymen and seedsmen to designate their establishment by such signs. The more common were "The Acorn," "The Rose," &c. George Ricketts, at Hogsden (Hoxton), adopted "The Hand;" Edward Fuller, in the Strand, "The Three Crowns and Naked Boy;" and Francis Weston's, in the Strand, was known by "The Flower de luce."

Fox," and the announcement of the host, "I shall be at home myself every Tuesday, Thursday, and Saturday," have unfortunately been obliterated. This Thomas Rivers was the late Mr. Rivers's grandfather's uncle, and was so successful as to die the proprietor of the place he and his father had previously occupied as tenants.

The nursery grew in extent and importance with every change of successor, and on the retirement of his father in 1827, Mr. Rivers took the whole responsibility of the establishment on his own shoulders, so that from that time what was comparatively of moderate extent gradually increased till it became what it now is, one of the largest in this country. In those days the plants cultivated were of a miscellaneous character, and such as were to be found in a well-appointed country establishment; but Mr. Rivers was always quick to perceive the rising of a popular attraction, and the first speciality to which he directed his attention was the extensive cultivation of the Rose. Formerly standard Roses were all imported from France, and Mr. Rivers set himself to produce at home what had hitherto been a lucrative article of commerce with the Paris and Rouen nurserymen. His attention was first directed to a specimen of the Apple-bearing Rose (*Rosa villosa*), which had been planted by some of his predecessors, and which had by treatment and age acquired the habit and magnitude of a little tree. This induced Mr. Rivers to train up plants of this species as standards; but it was found to be too tedious a process, and his attention was then turned to the ready-made standards of the Dog Rose which he found in the woods and hedges of his native county, on which to bud the choice varieties. In 1833 Mr. Rivers published his Catalogue of Roses, of which Loudon said, "This we consider to be the most useful catalogue of Roses in the English language." This was an imperial folio sheet for sending as a single letter by post. "The Rose Amateurs' Guide" first appeared in 1837, and in the space of forty years it passed through no less than eleven editions. This was the first really practical work on the Rose which had appeared in the English language, and it soon attained a reputation which established it and its author as the leading authorities on the subject. Mr. Rivers was also a raiser of Roses from seed, and there are many who still remember his George IV.

Although fruit trees had always been among the leading articles of the Sawbridgeworth as of other nurseries, about the year 1840 Mr. Rivers began to turn his attention more in that direction, and to give special attention to their culture, and so in that year he published the first edition of the Catalogue which in subsequent years has become so familiar to fruit-growers. In this year also appeared the first edition of the "Miniature Fruit Garden," which was the outcome of articles he had communicated to "London's Gardeners' Magazine" on root-pruning. Although root-pruning had been practised for centuries before, and the late Mr. Beattie of Scone Palace had not long previously advocated the practice, it needed an energetic mind like Mr. Rivers' to give it an impetus and to force it on the attention of the public. This he did, and did successfully, through the "Miniature Fruit Garden," which from 1840 to 1877 passed through eighteen editions, and has been the means of revolutionising the whole system of fruit gardening in this country. The first ideas he obtained of this system of fruit gardening were during a continental tour through France and Belgium, where he found small trees skillfully managed by being kept within small compass taking the place of the wide-spreading overshadowing standards and dwarfs that were so common in our own limited gardens. This mode of fruit culture has now taken root in the country, and where one or two trees formerly occupied a large space of ground a great number of small trees easily protected are now grown, affording a good supply of fruit and in greater variety.

About the year 1848-49 Mr. Rivers first conceived the orchard house. At that time the writer of this, on one of his visits to Sawbridgeworth, was conducted by Mr. Rivers to a part of the grounds where there were small square spaces enclosed with Beech hedges. These are frequently met with in nurseries as places for sheltering the more tender and delicate plants from storms and cutting winds, and it was one of these spaces that Mr. Rivers had covered with a glazed shade, the walls being nothing more than the Beech hedges. Within the space a turf bank was thrown up by way of a stage, and the path was slightly sunk to afford head-room. In this structure Peaches, Nectarines, and Apricots were growing in pots and laden with fruit. No ventilation was required, for the air percolated through the Beech hedges, and the only heat was that

derived from the sun and the shelter of the glazed roof. The success that attended this essay induced Mr. Rivers to attempt a more substantial structure, which resulted in the glazed roof being supplemented with boarded sides, and ventilation being admitted by openings at the front and back. This was found to be an improvement on the original erection, and in 1850 Mr. Rivers published the first edition of the "Orchard House." It was a pamphlet of very modest pretensions, and was written with the laudable object of its proceeds being applied to the repairing fund of the old parish church of Sawbridgeworth. The publication was very successful, and the amount obtained for the repairs was £189, which entirely cleared-off the debt which had been incurred. The first edition was in the form of a pamphlet the ordinary size of his nursery catalogues, and it passed through several editions in this shape; but this with his other works was ultimately issued in the duodecimo size in which they now appear. In the preface to the first edition the author anticipates the pleasure he was providing for those who love the pursuit of gardening. He says, "The method of culture given in the following pages has been to me a pleasant relaxation from the cares of an extensive business, and I feel convinced that it may be made equally agreeable to a numerous class of busy men who make their gardens a source of untiring quiet enjoyment."

The hold which the introduction of the orchard house took upon the gardening public was firm and rapid. The little work in 1859 had passed through five editions, and in the preface to the fifth we find these words:—"Orchard houses are now familiar things; hundreds are now rising up all over the face of the country; no garden structures have ever so rapidly advanced in popularity. That they deserve to be popular I am more than ever convinced, and I cannot help feeling grateful that, through the exercise of my humble literary ability so much good, because so much intellectual pleasure, has been derived from this new mode of cultivating fruit trees." The popularity of this work rapidly increased, so that in 1877 it had passed through fifteen editions.

But besides those works that were published separately Mr. Rivers contributed voluminously to all the current periodicals. His first appearance publicly was in "London's Gardeners' Magazine" in 1827, when, under the signature of "MALUS," he sent an article on "An Orchard in Miniature; or the Culture of Apple Trees as Dwarf Standards after the manner of Gooseberry Bushes." This, however, was not the precursor of the "Miniature Fruit Garden," the principle of which rests on root-pruning, and in this that operation is never mentioned. It seemed to consist in selecting the dwarf-growing varieties of Apples, such as the Nonpareil, for the purpose of grafting them on Paradise and Crab stocks. In the subsequent volumes of the Magazine his name as T. Rivers, jun., frequently occurs as a constant contributor. Mr. Rivers possessed a ready pen, and he was ever ready to communicate to others the knowledge which he had himself acquired, and of this the readers of this Journal can fully testify. For nearly thirty years he made the *Journal of Horticulture* one of the chief channels through which he diffused his extensive knowledge, and scattered the seeds of instruction far and wide to appreciating readers in these kingdoms and their colonies.

In 1870 a movement was set on foot to commemorate the services rendered by Mr. Rivers to the cause of horticulture. This took the form of a memorial portrait, to which a large number of his admirers subscribed, and the amount being much more than was needed for the portrait, the balance was given over to the Gardeners' Royal Benevolent Institution. An admirable portrait was secured, and it was handed over by Dr. Robert Hogg, who initiated the matter, to the Trustees of the Lindley Library, and it is now suspended in the hall of the Royal Horticultural Society along with those of Sir Joseph Banks, Professor Lindley, Mr. James Dickson, Mr. James Veitch, Rev. Joshua Dix, Mr. John Standish, and Rev. M. J. Berkeley.

During the last few years the Sawbridgeworth Nurseries have been under the direction of Mr. T. Francis Rivers, and they will still be continued under his management. That he may be long spared to continue and still further develop the resources of this great industry is, we are sure, the hope of all who hold in honour the family name.

GOLDEN QUEEN GRAPE.

I AM not sure that I can answer all the questions of "A GRAPE-GROWER" which appeared in your last number, but at least I think I can throw a little light on what to him seems

darkness. He seems to think that the prizes offered should have been awarded to the Grapes shown, no matter in what condition they were, because Golden Queen is a new and untried Grape. Surely "A GRAPE-GROWER" must be aware that this "new Grape" obtained its certificate in 1873, having then been proved for three seasons at Chilwell; that since that date it has been shown, I believe, three or four times before the Royal Horticultural Society's Committee; that it was also shown at Carlisle, Derby, and the Alexandra Palace, where there were not prizes specially offered for its appearance—for aught I know it may have been shown elsewhere, but these three cases I have heard of; that this "new Grape" has been in the hands of the public for the last two years, and is now offered in almost every Vine-grower's catalogue.

"A GRAPE-GROWER" must, I think, admit that the Judges of the Crystal Palace Show had some little experience and data to go upon when they pronounced the three bunches exhibited at the Palace unworthy of the prizes offered, even if Golden Queen has not quite the known excellence of Black Hamburgh. That the Judges were entitled to withhold the prizes I maintain, inasmuch as, having written to the Secretary of the Show to allow us to offer the prizes at the Palace, we placed the matter in his hands, and of course subject to the rules of the Show, and advertised that the prizes would be awarded by the Crystal Palace Judges.

I fear I have begun in the middle of "A GRAPE-GROWER's" questions, and must now note some of his earlier points. I hope I have shown by what I have written that we are not what your correspondent calls the holders of a new Vine, but that, on the contrary, Golden Queen is a Vine which has been sent out two years, and I hope I may say with an established reputation. Had it been otherwise we had been simple indeed, with a score or two of good bunches at home, to trust entirely to chance to see it well shown at the Palace; at any rate, its being shown well or badly will not make or mar its prospects.

As to your correspondent's last remark, of everybody's geese being swans or something to that effect, I can only say my late father sent out Golden Queen, and I think I may say with safety that his character has been long enough before the public to need no vindication from my pen.—ALFRED H. PEARSON, *Chilwell, Notts.*

THE OLD MARKET GARDENS AND NURSERIES OF LONDON.—No. 18.

RESUMING the subject of the suburb of Hammersmith I remark that, being somewhat farther off than Kensington and Brompton, and therefore rather beyond the influence of the movement westward which has so revolutionised the suburban districts in the vicinity of the Thames since 1830, it had, as much as Fulham, quite the aspect until recently of a place that had made up its mind not to be swallowed by the all-devouring metropolis. Now, perhaps, Fulham has retained more of its rurality, and the cause is obvious. At present Fulham has escaped the noisy railway lines which, ramifying across Hammersmith, have opened up new roads and called into existence piles of new buildings constructed on what we may term the "Hodge-razor principle" for the most part—that is, built to sell or mortgage, but with slight regard for the health and comfort of the occupants. And it may be esteemed a little curious, as Hammersmith was the early head quarters of the manufacture of London bricks, that much of the supply went to be used elsewhere; and up to twenty years ago Hammersmith with its park-surrounded mansions, its garden grounds, and open fields where cattle grazed placidly, might have deemed itself the rival of the northern Hampstead or the southern Norwood, though the rapid changes in Kensington should, so to speak, have made Hammersmith shake on her foundations. Possibly the disappearance of the Cedar, to which many a visitor was attracted as he passed through the suburb, may have been esteemed a bad omen. There is a place called "The Cedars" in the Hammersmith Road, and near these houses are two trees of this kind by no means despicable, but they will not compare with the original Cedar, the memory of which has almost vanished. This was reputed to be the finest produced in Britain; at its perfection the branches extended at least 80 feet from the trunk, which was 16 feet in circumference, and the height 59 feet. It bowed to the axe on September 1, 1836, yielding, it is said, 17,520 lbs. of that valuable wood. There are many fine old trees about Hammersmith still, chiefly Elms, Limes, and Poplars; the Oak, however, is as scarce as in most London suburbs, though

Oak woods once flourished in this part of Middlesex, as witness the not far distant "Acton," which is presumed to have been originally "Oak-town." And as yet the axe and the spade have left untouched Ravenscourt Park, the special delight of Hammersmith folk, who can no longer boast that they observe the old custom of tolling the curfew bell, though this was the last of the suburban parishes to drop a usage which was originated as a protection against fire. During the summer season in bygone times, after the curfew, there would start forth from the market gardens here quite a procession of men and women carrying loads on their heads intent on reaching Covent Garden about the day-dawn. This expensive and fatiguing plan of conveyance has been superseded, of course; nor are there now, as formerly, many girls engaged at Hammersmith who have come from their homes in Shropshire and Wales for a few months' employment, to return in September. Irish labourers are predominant, I think, amongst those at present engaged in the market gardens, judging from the specimens of dialect that greet the ear, nor is their urbanity at all remarkable.

The public-house signs in a neighbourhood are frequently significant; and at Hammersmith we have near the Vineyard Nursery the sign of the "Hand and Flower," and at Brook Green, once in the centre of market gardens, there is the sign of "The Jolly Gardeners." Possibly also the "Rose and Crown" may be reckoned with these, as it might have been suggested by some loyal gardener. Other signs, such as the "Plough and Harrow," the "Barley Mow," and the "Cock and Magpie" belong to the time when there were farmers who grew Wheat and bred cattle and poultry in Hammersmith. How much of significance there is in names that we often miss! For instance, "Bradmore," which is attached to one locality in Hammersmith, does not, to ninety-nine persons in a hundred, convey any thought; yet there is reason to suppose it represents "broad mere," pointing back to the time when a broad mere or lake-like pond connected with the Thames was situate here. Much of the land in Hammersmith must have been under water in some seasons before the drainage was improved—perfected it cannot be said to be; but as beneath the surface soil there is generally sand or gravel, except in a few places where loam prevails, it has always had the credit with gardeners of being one of the best districts near London, particularly for the culture of fruit.

Mention has been made of the establishment of the Messrs. Lee, which is, as I understand, likely soon to be a thing of the past in Hammersmith, for a sale has already taken place at the time-honoured "Vineyard Nursery," and the business of the firm will be carried on at their grounds farther out in the suburbs. Hence houses will cover the spot sooner or later. There may be, it is true, a "Vineyard Terrace" or a "Lee Crescent," I hope there will. Farther on in the main road, and before the Broadway is approached, there is another nursery of some standing occupied by Mr. Elmes, concerning which there is nothing special to record; like its neighbour, it is probably in peril from the builders. On the southern side of the road, and extending towards the Thames, much land is under cultivation by Mr. T. Steel, whose name is a familiar one amongst gardeners at the west of London, and who will, I trust, steel his heart against the tempting baits speculators may offer. This is not the only district where market gardens are owned by that firm. In Hammersmith, however, where every effort seems to be made to get the most from the land, the beauty of the scene is interfered with in order to increase profit. Hence much of the orchard ground has been cleared, a succession of vegetables being found more advantageous than the production of fruit, especially as the securing it from depredators is troublesome when the population is numerous. From the yet remaining orchards in the vicinity not many Cherries and Walnuts now go to the market, though Apples and Plums may. Few Pear trees were planted by the early gardeners, on the supposition that these did not flourish here.

The nursery of Messrs. Colley & Hill had a frontage (a narrow one, I presume) in King Street, and the grounds extended towards the Mall and overlooked the Thames. Vainly would the visitor now seek for any traces of a nursery which in its day sent many choice plants to public and private displays of flowers. According to Faulkner the establishment at the beginning of Her Majesty's reign was noted for its Auriculas, Dahlias, Verbenas, Fuchsias, Cyclamens, Tulips, Azaleas, and Roses, with other things unenumerated no doubt, for the worthy historian was evidently not very learned in plants, or

he would scarcely have added that the firm had a good collection of "hybrids." I have been unable to ascertain when the nursery was closed, but on some part of the land houses had begun to be built twenty years ago or more, and probably like some other nurseries its extent grew "small by degrees" through portions being taken off for scattered houses, till the remainder at last made way for streets. At Bradmore also, when Faulkner wrote, Mr. James Lee, jun., had about eight acres of nursery and garden ground, excelling in his Dahlias, Pansies, and Pelargoniums. The nursery of Mr. Wells at Brook Green, which is yet extant, was another of some repute; in 1838 there were attached to it seventeen acres. But the market gardeners were more numerous than the nurserymen, and amongst the principal of these forty years ago I find the following specified:—Mr. Clarke, holder of fifteen acres, Bradmore; Mr. Brookes, eight acres, Angel Lane; Mr. Deadman, fifteen acres, Red Cow Lane; Mr. Masters, ten acres, Hammersmith Road; Mr. Yeldham, ten acres, Fulham Road; Mr. Dobson, eighteen acres, Pallingwick Green. Between Starch and Brook Greens were Messrs. Browne, Hodges, and Martin, with ten, twenty, and thirty-six acres respectively.

Then there were amateur gardeners at Hammersmith deserving of a passing notice; but there were never here, as in some London suburbs, gardens belonging to the nobility, which served to help on the progress of horticulture. Occasionally, no doubt, Hammersmith nurserymen gained admission to the grounds of the adjacent Palace at Fulham, more famous for its flowers and shrubs in Georgian days than it is at present. The name of Louis Weltge is mentioned by writers on horticulture, he being a successful raiser of seedlings, which he distributed to a great extent gratuitously; he also devoted special attention to the *Auricula* and *Pelargonium*. Mr. Salter, in the reign of William IV., was presumed to have one of the finest collections of *Iris* in these islands at his garden near Shepherd's Bush. At this place was formerly the nursery belonging to Mr. Plimly, who was also a market gardener. In his forcing houses were to be seen, forty years ago, splendid specimens of the Queen and other good varieties of the Pine. From Lord Holland's establishment he received early examples of the famous *Dahlia purpurea*, which was raised in 1803 by his lordship's gardener from seed which that nobleman had brought with him from Spain. And there formerly lived at Hammersmith an eccentric old gentleman of the name of Keene, whose boast was of his garden in Vale Place and the Apricots and Peaches he gathered there. With a love of gardening he combined (oddly enough) a fancy for collecting black-letter books. Early in this century he was to be seen daily promenading the main road in a "brown suit of clothes surmounted by a brown, unpowdered, and highly polished wig, topped by a shovel hat," and flourishing in his hand a "hooked crabbed stick of stately dimensions." At Brook Green resided the celebrated Tulip grower Mr. Strong.—C.

NEW BOOK.

British Industries—Horticulture. By F. W. BURBIDGE. London: Edward Stanford, 55, Charing Cross.

UNDER the editorship of Mr. G. Phillips Bevan, F.G.S., a series of volumes on the industries of Britain have been prepared and published; and as horticulture was recognised as of sufficient importance to be represented in the series, Mr. Burbidge was commissioned to prepare the present volume. It is necessarily in a great measure a compilation, and the gardening press of this and other countries has been laid under contribution, and official records have been utilised and books of some private firms have been placed at the author's disposal, and the result is that horticulture for commercial purposes has been shown in a plainer manner than it was ever shown before. But the volume also contains much original matter—much that is both entertaining, instructive, and useful. There are chapters on fruit culture, vegetable culture, herbs, decorative plant culture, hybridising, and plant propagation, Covent Garden Market, fruit and vegetable preserving, gardening industry abroad, with allusions to some collateral industries, and last but not least in usefulness, a capital index. Such is the scope of the work, its nature will be best appreciated by a few extracts.

After stating that the capital employed in the leading metropolitan nurseries varies from £10,000 to £50,000, or even more, fruit cultivation is thus alluded to—

At the present time we are paying a sum of £6,000,000 annually for imported fruits alone, and yet news reaches us from the Continent that fruit culture is being rapidly extended in many

agricultural and pastoral districts, so satisfactory to the fruit growers are the prices now realised in our markets. France, Jersey, Holland, Spain, Portugal, and Turkey send us Grapes, Melons, and Figs; the great bulk of our imported Apples comes from France and America; Pears from France and the Channel Islands (from Jersey we annually receive £7 worth of Potatoes per acre for the entire acreage); and during the earlier part of the season, when Strawberries, Cherries, and Plums fetch good prices, our own growers have but a poor chance of competing with the continental cultivator, who, in addition to a sunny climate, cheap labour and transit charges, and in most cases freehold land, brings a vast amount of intelligent ability to bear on fruit culture as a profitable industry.

Now that the acreage of our Wheat and Potato crops is decreasing year by year, and the production of meat is yearly becoming more risky and less profitable, it is a matter of great moment that the importance of gardening as a food-producing industry should receive that attention which it so well deserves. That we should import Apples and other hardy fruits to this country at a yearly cost of nearly £2,000,000 is all the more remarkable when we consider how many thousands of acres of cultivated land are annually devoted to a far less remunerative industry—viz., timber-growing; when thousands of acres are left waste which might be made most profitable for fruit culture.

And now

That we have an ever-growing population of 30,000,000 people to feed, and according to the latest reports only about 40,000 acres of land specially devoted to vegetable gardens, the produce of which is regularly marketed, it need no longer surprise us that our trade in imported fruits and vegetables should be expanding year by year.

The orchard, or hard-fruit growing, area of Great Britain is given as being only 154,584 acres, or less than half the return for the American State of Illinois alone, where an area of 334,067 acres is occupied by orchards. Notwithstanding enormous imports, however, current prices are maintained, or rise rather than fall, so that it seems that the demand still exceeds the supply; nor is this demand altogether owing to increasing population, but rather to a growing taste for fruit and vegetables as articles of food among the more intelligent of our labouring population, who, it must be remembered, influence the sale of food commodities far more than the wealthier classes.

The author further states—

That fruit-growing may become a remunerative calling to any person of intelligence having a capital of from £100 to £1000 has been proved by the direct experiments of the Rev. William Lea, M.A., whose work entitled "Small Farms: How they can be made to answer by means of Fruit-growing" published at the *Journal of Horticulture* Office, is one of the most concise and valuable of any hitherto published on this branch of cultural industry.

The cost and value of growing different kinds of fruits are alluded to, and there are chapters on the cultivation of vegetables, detailing the practice of the London market gardeners.

Decorative plant culture is thus referred to—

This branch of gardening industry has been wonderfully developed during the last twenty years, and an immense amount of labour and capital has been devoted to the culture of ornamental plants in small pots suitable for sitting-room or window decoration, and also to the production of choice cut flowers of various kinds, from the choicest of tropical *Orchids* to the old-fashioned *Narcissus* and *Snowdrops* of our gardens.

Some years ago immense profits were made by plant-growers for markets, but competition in this branch of industry, as in those of vegetables and fruits, has done much to reduce these; at the present time, as a rule, but little more is made than a fair return for the capital and labour expended, and further competition in this field is not likely to be successful unless some fresh line of culture is adopted, or some striking novelty introduced into the market. In this branch of gardening the capital expended varies from £100 to as much as £2000 and even £5000 per acre.

Nearly all plant-growers for market have something of which they make a speciality. Mr. Beckwith of Tottenham sends to market yearly from 80,000 to 90,000 show and fancy *Pelargoniums*. The plants of the show and fancy kinds are struck in the spring, as early as cuttings can be obtained, and potted-on till they occupy 48-sized or 32-sized pots. They are subjected to gentle warmth, and abundance of air night and day when the weather will permit, and are copiously watered daily. The only kind of stimulant used in this great plant factory—for such it may be called—is soot water, which is applied of different strengths, according to the different stages in which the plants may be. This has the effect of dispelling worms from the soil, and imparting to the foliage a dark green healthy-looking colour.

Bulbs also occupy a very important position in this establishment, especially *Hyacinths* and *Tulips*. Of the former between 60,000 and 70,000 are forced yearly. Mr. Beckwith always contrives to send twenty dozen pots of *Hyacinths* to market the

day before Christmas. Tulip bulbs are placed in shallow boxes, in which they remain until flower-buds can be seen, when they are lifted and potted four or five in 48-sized or 32-sized pots, using good sandy loam for the purpose. The single Duc Van Thol is the principal variety grown. Another market grower, Mr. Reeves of Acton, imports and grows yearly as many as 160,000 Tulip bulbs. Mr. Smith, of Ealing Dean Nursery, makes a speciality of Cyclamen culture, and yearly sends 10,000 or more to Covent Garden and other markets. A very large house is devoted to the culture of Poinsettias, and a more brilliant sight than they present when in bloom can scarcely be imagined, thousands of large scarlet bracts being open at one time. These plants are grown in 48-sized pots, are about 12 or 15 inches high, and well clothed with large green foliage from top to bottom. In addition to these several thousand Solanums are grown, 10,000 Begonia Weltoniensis, 12,000 Cinerarias, and as many Fuchsias. Some growers devote themselves to Mignonne, Heliotrope, Hydrangeas, and Asters; while others make a speciality of white Arum Lilies (*Richardia athiopica*), Pelargoniums, Fuchsias, and perhaps Chinese Primulas or Cinerarias.

We can only at the present make one more extract from the chapter on collateral industries of gardening.

Directly and indirectly gardening industry is beneficial, as affording employment to thousands of persons, head gardeners and their assistants, labourers, artisans, and others, to say nothing of an immense number of extra hands, principally women and children, who are employed in gathering fruit and vegetables during the summer months. In our best market gardens we frequently find three to five hands per acre, and in nursery gardens of course the rate is much higher; indeed, gardening is, of all forms of land culture, that which affords the best market for labour, whether skilled or otherwise. Messrs. Crosse & Blackwell inform me they employ regularly over a thousand hands, and from three to four hundred extra labourers, chiefly women, during the fruit season, the annual amount of wages paid by this one firm alone being £50,000; this expense for labour is necessary to the due preparation and distribution of 1500 tons of fruit, and 10,000 hogsheads (500,000 gallons) of fruits and vegetables in a preserved state, either as pickles or sauces; and among the ingredients necessary for this wholesale conservation, we note 1200 tons of sugar, and about 500,000 gallons of vinegar, the latter being prepared by the firm at their own brewery. The consumption of corks, pepper, wire, paper, and wood for packing cases, is proportionately great, to say nothing of show-cards and the hundred little requisites of such an extensive business. We are not told the sum paid for the glass bottles and porcelain jars in which these preserved fruits and vegetables are packed previous to their distribution, but it must be something considerable.

Extensive as is the fruit-preserving and pickling industry in this country, our American neighbours are ahead of us in the matter, and, thanks to their rich and almost boundless tracts of alluvial lands, they are enabled to supply half the world with canned fruits and vegetables of excellent quality and at a cheap rate. It has been estimated that of Cucumbers alone 100,000 barrels are pickled annually in the United States; these, on the average, being worth £4 per barrel; if those put up in jars with vinegar and spices be included, it gives a total value of £400,000 for this one product alone, to say nothing of Tomatoes, green Corn, Cranberries, Bartlett Pears, Blackberries, Apples, and other fruits, and the thousands of tons of Apples, Pears, Plums, and vegetables now preserved by the Alden and other desiccating processes.

We commend this modest little volume to our readers, and believe that not many of them will rest satisfied without reading it through.

SINGULAR TREES.

THERE are many species of trees growing upon the earth's surface of a very peculiar nature and entirely unknown in this region of the world. For instance, the Brazilian Nut Tree, a native of the country whose name it bears, affords a delicious fruit and grows to an average height of 75 feet. The fruit resembles a Cocoa-nut, and is about a third larger. Each ball contains from twelve to twenty nuts, three-cornered in shape and nicely packed together. During the season of their falling it is dangerous to enter the forest without a shield, as the force of their descent is sufficient to knock down the strongest man. In Guinea they have the Cannon Ball Tree, growing to the height of 60 and 70 feet, bearing a flower remarkable for beauty and fragrance, being of a brilliant crimson; the fruit resembles large cannon balls. From the shell various kinds of domestic utensils are made, while the pulp affords two kinds of acids, sugar and gum, besides material for an excellent drink in sickness.

At Goa, near Bombay, they have what is known there as the

Sorrowful Tree, because it flourishes in the night only; at sunset no flowers are seen, but in half an hour after the tree is full of them. As soon as the sun shines on these blossoms they close up again. The flower has a sweet smell and blossoms all the year. On the side of Mount Etna there is a famous Chestnut tree, measuring nearly 200 feet in circumference just above the surface of the ground. Its enormous trunk is separated into five divisions, which gives it the appearance of several trees. In a circular space formed by these large branches a hut has been erected for those who collect the great yield of Chestnuts, which are four times the size of those growing upon our New England Chestnut trees. A similar fruit is produced in the south of France, and is sometimes to be seen for sale on the corners of the streets in our northern cities under the name of Italian Chestnuts. In the country where they are grown these Chestnuts form no inconsiderable source of sustenance, being extremely palatable and nutritious when roasted.

There is a most curious dwarf tree, unknown, we believe, except in the mountain region near Cape Horn, only about 3 inches in height, yet with regular branches spread out 4 or 5 feet along the ground. In Bombay there is what is called the Sack Tree, because from its trunk and branches may be stripped a natural sack which resembles felt in appearance, and which is in universal use among the inhabitants. The Ivory Nut Tree is very common in South America. It is a species of Palm, the nuts making choice buttons and small ivory articles, while the broad and substantial leaves form a covering for the huts of the natives. The Butter Tree is found on the banks of the Niger in Africa, and from it excellent butter is obtained. The tree is like our Massachusetts Oak, and the fruit somewhat resembles the Spanish Olive. The kernel of the fruit is boiled, and the butter thus obtained is whiter, firmer, and of a richer flavour than is that from a cow, besides which it will keep a year without salt. This brief mention by no means exhausts a subject to which we may again refer.—(*American Cultivator*.)

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

KITCHEN GARDEN.

THE weather is still fine, but too cold at night for Dwarf Kidney Beans, Scarlet Runners, or even Peas, to do any good. Indeed ours have been over for some time, and in no season have Peas ever done well with us in the autumn. Where Cauliflowers have formed heads these must be protected from the frost. Some persons merely break or bend one or two of the inner leaves over the heart, but a better way is to tie them together over it with a strip of matting. Some gardeners lift the plants where the heads are not yet formed and lay them in deeply in a sheltered place rather close together with the heads inclining to the north; the plants are then easily protected by having a few light mats laid over them in frosty nights, or some dry straw may be used for the same purpose. Endive should also be tied-up to blanch, but this must be done when the leaves are dry; so also should the Cauliflower leaves. The plants are easily injured by damp at this season, and they may be kept quite dry by having an 11-inch board placed ready to lay over them; it may be kept above the plants by having bricks laid on the ground to support it. Lettuce and Cauliflower plants may now be planted in frames to stand over the winter. We generally plant the Lettuce in the open ground, but the vicissitudes of our winter sometimes make sad havoc amongst them, and it is well to have a small reserve to fall back upon. We shall soon have the hand-lights filled with plants of Early London and Walcheren Cauliflower.

If the late Potatoes have not yet been lifted no time should be lost in doing so, as they can only take harm now that the haulm has been destroyed by frost. We have tried many plans to keep them, but the most convenient next to a frost-proof shed is to make a clamp or pit of them. This is done by digging out the ground to the depth of from 4 to 6 inches, and then carefully put in the Potatoes in the form of a cone or long ridge, according to the quantity to be put in; then thatch them with dry straw of any sort, and cover the straw over with about 6 inches of soil; this will protect the Potatoes from any amount of frost, and they may be taken for household use as they are required in fine weather.

As the weather is so fine and the ground dry, Carrots, Salsafy, Scorzonera, Beet, and other roots should be lifted and stored, as they keep well when lifted in such a dry state during a fine dry day. If the ground between growing crops is close and hard a good plan is to run the Dutch or draw hoe through the ground; even if there are no weeds the crops are much benefited by it.

VINERIES.

It is very desirable to pay particular attention to the fruit hanging in the late house. The leaves are now falling rapidly, and owing to the evaporation of moisture from them the berries are more liable to mould than they are at other times. All that can be done is to keep up an equable temperature in the house and to remove the leaves as soon as they fall, or to pick those off from the Vines as soon as they cease to be useful. The dense fogs have also set in generally at night, and sometimes continuing till mid-day. Last Thursday at 11 A.M. it was so dense that a person could not be distinguished at six yards. This is what tries us the most, especially if the fogs are continued for many days. We are now making arrangements to renew the border of one of the early vineries; the roots have penetrated beyond their bounds, and no doubt they have gone through the drainage into a bed of gravel underneath. We shall cut a trench through the border parallel with the front wall and about 6 feet from the Vines. All the roots on the further side of this will be cut off, and the whole of the old compost will be removed. After that has been removed the rubble at the bottom will be turned over, removing from it all the particles of loose earth; the rubble will then be levelled over the bottom and some turf be placed over it with the grass side down. The next thing is to work into the old border that remains, and level about 6 or 9 inches of this into the bottom before putting in the compost that has been already prepared. We do not use it any richer for this than it was used for the border when the Vines were planted. The component parts of a Vine border have been so often described that one would think it was known to everybody, had not a correspondent written last week to ask if the following would answer to make a border for Vines—viz., to twelve cartloads of turfy loam add six cartloads of stable manure, two loads of lime rubbish, and twenty bushels of crushed bones. It was fortunate that the correspondent wrote to the Editors for information, else a large expense would have been incurred to end in failure. One load of decayed manure is sufficient for six or nine cartloads of loam according to its quality, and 1 cwt. of crushed bones would be enough to add to it, with two bushels of charcoal. A cartload of lime rubbish might be added to six cartloads of heavy loam or nine cartloads of light loam.

PEACH HOUSES.

As in the case of vineries, preparations must now be made to begin forcing the earliest house by washing the woodwork, dressing the wood of the trees, and renovating the borders. Besides being subject to the attacks of red spider, thrips, mildew, and green fly, the wood is often attacked by brown scale. This pest does much injury when it is allowed to increase unchecked. Before painting the wood with the mixture the scale ought to be washed off with a sponge dipped in soapy water. The wood ought also to be tied into the place where it is permanently to remain, and then, if it is necessary to put any plants into the house, they may be arranged on a temporary stage in the most advantageous position. In the late house the leaves will nearly have all fallen except on such sorts as Salwey, Comet, Lord Palmerston, or other late sorts. A suitable ripening temperature should be kept up, and as soon as the fruit can be detached by hand it ought to be gathered and removed to the fruit room, where it will keep in good condition if required for ten days.

PLANT STOVE AND ORCHID HOUSES.

At present we are not doing much except to clean the plants, pots, and stages, glass, and woodwork, both outside and inside. Whatever plants are flowering should be attended to, and the flowers be preserved for as long a period as possible. Many of the same plants are in flower that we alluded to a few weeks ago, and they continue quite as long again now as they do in summer. Nearly all the summer-flowering plants are approaching the resting period of their existence, and should not be excited by too much heat combined with moisture at the roots. *Clerodendron Balfourianum* and *Bougainvillea glabra*—two of our most useful stove plants either for decorative purposes on the home stage or for exhibition—will stand over the winter in a warm greenhouse, but they must be very sparingly supplied with water; indeed, they will scarcely require any. These and plants of a similar character will pass through the winter in the stove. They will not start into growth if water is not supplied to them. Poinsettias are now forming their flower bracts. These plants must not be over-watered, and an over-moist atmosphere does not suit them. They require a temperature of about 60° at night. A little guano water, or manure water formed by steeping sheep or cow manure in water, adds greatly to the strength and brilliancy of the floral bracts. We have the old variety and the new sort introduced to England by the Messrs. Veitch of Chelsea two or three years ago, and it is interesting to notice the difference in growth between the two, and also that the new sort is later in forming its bracts. It was thought that this new variety would displace the old sort altogether. We do not think so. They are both required; the old variety to flower earliest, and the variety plenisima to prolong the display at least two months longer than heretofore. Keep the plants close to the glass and admit as much air as possible, still keeping up

the temperature to about 60° at night and 65° or 70° by day. We would again urge the utility of the winter-flowering *Calanthes*. Now that the bulbs can be purchased at a very cheap rate, and can be grown in an ordinary stove amongst other plants, every collection should contain them. We simply pot the bulbs when they start into growth in February or March—three small in a 5-inch pot, selecting the largest bulbs to be potted in 6-inch pots. Turfy loam with a little decayed stable manure added is the best potting material; they do better in this than in peat. *C. oculata rosea* and *lutea* are the earliest to flower, to be succeeded by *C. Turnerii* (pure white) and *C. Veitchii*, the beautiful hybrid we owe to the skill of Mr. Dominy. Of these there are many shades of colour, from pale rose to crimson. The noble *Odontoglossum grande* is very beautiful at this season, and is easily grown. We have it in the cool house with *Odontoglossums* from New Grenada, and in the Cattleya house with the Mexicans. The variety *O. grande leopardinum* has the labellum of the richest gold and crimson bars; the sepals and petals are also much darker. *O. bicornense* is easily grown, and its spikes tower erect above most others. *O. autumnalis* is throwing up vigorous spikes, but the flowers will not open for a month yet. Although many plants are in flower or showing, it is not well to excite them with too much heat or moisture. We keep the *Odontoglossum* house about 50°, a few degrees less or more according to the weather; the *Cattleya* house about 55°, and the East Indian Orchids 60° to 65°.—J. DOUGLAS.

TRADE CATALOGUE RECEIVED.

Charles Turner, Royal Nurseries, Slough.—*Catalogue of Roses, Fruit Trees, &c.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

BOOKS (B. E.).—"Greenhouses for the Many," price 6d., or "Garden Manual," 1s. 6d.

INSTRUCTION (Pimlico).—Write to Messrs. Veitch.

TURNTIPS (A Lady Reader).—They are stringy if they have produced stems for flowering. They are best kept by being buried in sand in a cellar.

FERN (A. McDonalld).—It is *Asplenium fontanum*.

LEAVES (L. H.).—We cannot name from leaves only. The Vine roots have probably descended into an unsuitable soil. Manure the surface over them. *Echeverias* may be wintered in a greenhouse.

TYING FRUIT TREES (E. W.).—Stockholm-tarred string is not injurious to the tree tied with it, but you must adopt means to prevent the bark being chafed.

TRELLIS (Sambo).—Train over it Ivy and *Crataegus Pyracantha*.

SALSAFY (A. S. H.).—Sow in March and April in an open situation in shallow drills 9 inches asunder, scatter the seeds thinly, and cover them half an inch deep. When the plants are 2 or 3 inches high thin to 10 inches asunder. During very dry weather water occasionally very plentifully, and if half an ounce of guano is added to each gallon of water it will be very beneficial. They will have large roots by September or October; and in November, when the leaves begin to decay, a quantity may be preserved in sand for use in time of severe frost, but those left in the ground will not be injured. In spring, when those remaining in the ground begin to vegetate, the shoots when a few inches high may be cut for use as Asparagus, being excellent when quite young and tender.

CELERY (W. J.).—Dig a trench and bury the sticks, leaving the green tops uncovered.

VINES MILDEWED (L. H. and G. F.).—They seem to have had a slight attack. You can do nothing now until the leaves fall, when you must prune the Vines; then wash the wood with soapy water, and paint it afterwards with a mixture of flowers of sulphur stirred in soapy water till it is of the consistency of thin paint, add to it a little tobacco liquor. No harm will be done to your Vines if the wood is well ripened. Vines are most subject to mildew when they are unhealthy. Probably the roots have gone down into unsuitable soil; if so it would be best to raise them as you propose and put in fresh soil. Vines are more subject to mildew in a greenhouse than they are in an ordinary vinery. The low temperature is the cause. When the parasite appears dust the leaves with flowers of sulphur. The gas stove would not cause mildew. Paint the Vine when dormant with the sulphur mixture.

LATE-KEEPING APPLES (A. B. C.).—Gooseberry, Wellington, Blenheim Orange. *Ranunculus* will not do well behind a north wall.

TREATMENT OF ORANGE TREES (Idem).—They will do in a temperature of 65° during the winter months, but it is not desirable to keep them in this temperature unless they are bearing a crop of fruit which it is intended to ripen. The trees can be kept much cleaner and more healthy in a greenhouse temperature.

BOILER.—W. Palmer wishes to know some gardener who has tried Messrs. Heap & Wheatly's boiler for heating a small greenhouse.

WIRING PEACH WALL (—).—The trees will not do so well with the wires fixed 6 inches from the wall as they will close to it.

ERRATUM.—Mr. Wootton Wootton, Headington House, Oxon, writes that the foot-note attached to his list of Roses on page 302 should read as follows:—La Rosière has not been sufficiently tested to compare with Prince Camille de Rohan, nor has Marguerite Brascac as regards Charles Lefebvre.

VIOLETS.—We have a letter for "G. E. M.," which can be forwarded if we receive the full address.

COVERING PEACH TREES WITH GLASS (Kittie).—Of the three plans we prefer No. 2, and if the glass lights at the top were made to lift up with a rod, which could easily be managed, it would make a most efficient covering. The sashbars ought to be 2½ inches deep by 1½ inch wide. No. 1 plan would answer equally well, but we object to the wood top.

STRAWBERRY TREATMENT (A. B. C.).—By your letter we fancy yours is rich light soil, as such soil has a tendency to cause the production of leaves minus fruit. The runners were too late in being planted to bear fruit last summer. Another reason may be in the fact that you have not good varieties. Let your beds alone this winter, but obtain some runners of such sorts as Keens' Seedling, President, Auguste Nicaise, Due de Magenta, and Frogmore Late Pine, and plant in another portion of your ground; then look out in "Doings of the Last Week" for instructions as to future treatment.

REHOBODENDRONS NOT SHOWING BLOOM BUDS (Idem).—You did wrong to pot them at the time you did; it is best to pot after the bloom buds are formed. They will not be likely to form them now.

MAKING VINE BORDER (A. N.).—The roots sent were dried up, but we did not notice any disease upon them. Nothing could be worse to put in the bottom of a Vine border than "old oak stumps," and your proposed compost is far too rich. Two cartloads of hotbed manure is enough to mix with sixteen of decayed turf; to it add two cartloads of lime rubbish and 2 cwt. of crushed bones. You need only turn the compost twice before using it.

GLOXINIA TREATMENT (Desperandum).—The leaves are turning yellow because the plant is going to rest for the winter. Lay the pots on their sides in your house, and you need not water them until February, when it will be time to start them. Do not place the pots close to hot-water pipes, else the corm or bulb may become too dry.

REPLANTING AN OLD ORCHARD (Subscriber).—As the ground under the old trees has been for so long meadow land we advise you to trench the soil before replanting it again with young trees. If you do this we are confident that they will do well. Add manure at the same time if the ground requires it.

REMOVING A PEAR TREE (E. B.).—If the tree has not been disturbed at the roots for twelve years we would make a semicircle round the roots at 4 feet from the stem, then dig a trench about 2 feet deep and work a foot nearer the tree, raising the roots, and after placing some turfy loam amongst them fill-in with the ordinary soil; the tree may then be removed next year in November. It will be found to be a mass of fibrous roots where the loam was put in.

TREATMENT OF IMANTOPHYLLUM MINIATUM (Subscriber).—This plant is usually classed as requiring greenhouse treatment, but it does better with a little more heat than the ordinary greenhouse temperature. Your plant may be too much shaded under the Vines in vinery. If it was placed near the glass and enjoyed more light it would flower. It succeeds well potted in turfy loam, a little leaf soil, and sand added to it.

ALTERATION OF VINERY (J. W. L.).—It will be quite necessary to have the ventilators at the highest part of the roof. You must therefore cut the long rafter at the point B, and use the bottom part for the short lights at the back.

TRANSPLANTING ROSES (J. P. H.).—It will of course be best to transplant your newly budded Roses to the permanent positions; the only reason for hesitation is the unornamental appearance which they will present for the next year or two. Cut back the Manetti stocks to within 2 or 3 inches of the bud immediately, and carefully remove all stem buds and suckers when they are taken up. "Rivers's Rose Amateur's Guide," D. Thomson's "Handy Book of Fruit Culture under Glass," and our own manual of "Fruit Gardening for the Many," are the works you require.

TRELLIS FOR ROSES (C. T. S.).—Stout galvanised wire strained from eyelets or staples driven into the mortar answers admirably. They may be strained up and down with cross wires in the form of squares or diamond-shaped, fastening every two wires with wire thread at every angle, and driving in a few intermediate staples to stiffen the central parts. A handy man can do a large space in a few hours with a pair of nippers and a hammer.

FLOWERS FALLING PREMATURELY IN A CONSERVATORY (J. C. M.).—When Camellias that are planted in a bed in a house so well ventilated as yours is shed the flower buds at this season of the year there is something wrong in the soil, the bed, or the watering. Camellias answer in loam, in peat, and also in a mixture of both, with enough grit or other hard substance to afford a quick and ready passage to water, care also being taken to drain the bed. When this is well done you can hardly give too much water; but if the drainage be at all inefficient, then bud-dropping and yellow foliage soon follow. The fact that plants in pots also shed their buds soon after they are brought into the house points to overwatering, and we should not be surprised if you find that somebody has amused themselves with a waterpot in your absence. A hot dry atmosphere induces bud-shedding among greenhouse plants. Camellias require no artificial heat, only for the exclusion of frost.

WINTERING ACACIA LOPHANTHA, &c. (Sambo).—*Acacia lophantha* lives through the winter in the open air in the Scilly Isles, and it would probably do so in some parts of Devon and Cornwall, but in all other parts of this country it must be taken up at once and put in a greenhouse or pit. In the public gardens of London a fresh stock of it is raised every spring from cuttings or seeds, young plants with clean single stems being found most useful for bedding purposes. A packet of seed can be had for 6d. Scented Verbena (*Aloysia citrodora*), may frequently be met with in the south in snug corners, and trained to sunny walls, where it exists and flourishes for many years. Under less favourable circumstances it must have the shelter of a frame or shed in winter. Fuchsias may be left out if the crowns are protected by a little heap of coal ashes; but as by this method the whole of the stems are usually cut down by frost, it is far preferable to lift them and put them in any shed, cellar, or frost-proof building, covering the roots with sand. We have seen them wintered successfully by covering up the entire growths, roots and branches, in a heap of leaves from autumn till spring. When this is done care must be taken to remove the leaves from the branches before the new growth appears, or much of it will be broken off.

PLANTING BULBS IN OPEN BEDS (Idem).—Lilies of all kinds may be planted from the present time till March. If the soil is poor and thin deepen and enrich it, planting the bulbs quite 4 inches below the surface. Hyacinths and Tulips answer best when planted in September and October. Both may, however, be planted successfully till the end of the year.

INSECT (Rosa).—Smith in his "Ferns British and Foreign" says, "Within the last twenty years a small white-winged insect like a midge has made its

appearance (supposed to have been first introduced with imported plants to Kew). They congregate on the under side of the fronds, and when the plant is moved dart off like a flock of white Pigeons. At first it was supposed to be harmless, but such is not the case, as it has been found to feed on the cuticle like thrips. Repeated tobacco fumigation destroys it." We have found it on the under side of leaves more especially the Tobacco plant (*Nicotiana*), also on *Rivina levis*, *Panicum plicatum*, *Oldenlandia Deppiana*, and *Nephradium molle*; but these plants were growing in a Cactus house where the atmosphere was rather dry, while houses in close proximity in which Ferns were growing, and the atmosphere always kept very moist, have even been quite free from the insects. The name of the insect is *Aleyrodes vaporariorum*.

NAMES OF FRUITS (J. Woodliff).—1, Beauty of Kent; 2, Bedfordshire Foundling; 3, Bess Pool; 4, Braddick's Nonpareil; 5, Golden Russet. (*South Devon*).—1, Devonshire Buckland; 2, Hunt's Deux Ans; 3 and 4, Emperor Alexander; 5, Wheeler's Extreme; 6, Not known. (*Joseph Robinson*).—Golden Noble. (*New Plant and Bulb Company*).—2, Wormsley Pippin; 3, Melon Apple; 8, Downton Pippin; 10, London Pippin; 13, Golden Reinette; 14, Lady's Finger. (*C. J. B.*).—Dumelow's Seedling. (*Connaught Subscriber*).—Nelson's Victory.

NAMES OF PLANTS (J. P.).—*Echeveria glauca*. (*G. A.*).—1, Fuchsia procumbens; 2, *Pellaea hastata*; 3, *Oncophium japonicum*; 4, *Pellaea rotundifolia*; 5, *Asplenium Adiantum-nigrum*. (*O. C. H.*).—*Cattleya Loddigesii*. (*Gratus*).—1, *Pyrethrum frutescens*; 2, *Pierardia coronaria*? (*Zebra*).—1, *Phyllis Alkekengi*; 2, Specimen insufficient. (*W. Crowder*).—*Limnathes Douglasii*. (*Rev. T. A. Brennan*).—The specimens were not numbered. The Editors cannot answer by post. (*Richard Carnall*).—1, *Eucomis punctata*; 2, *Chrysanthemum fruticosum*; 3, *Hyssopus officinalis*.

POULTRY, BEE, AND PIGEON CHRONICLE.

THE CRYSTAL PALACE SCHEDULE.

THE schedule is out and the entries are supposed to have closed, but Mr. Howard has announced that the Committee have decided to keep open their entries until after the results of the Oxford Show become known, and that entries will be received until the 29th inst. Outside and inside the little book is so much as usual that the notices of past year's schedules will almost suffice for this. The highest value of any one poultry cup is £6 6s., and some more money has judiciously been offered for old birds, such as Buff Cochins, &c. We are, however, sorry to see that the class for Silkies has been omitted, especially when many fanciers of long standing have this season joined their ranks. It is true they only mustered seven pens last year; but if this is why they are now cut out, with their departure should have gone too classes for Silver-pencilled Hamburg cocks and Silver-pencilled Hamburg hens, White Leghorn cocks, &c. A national show should surely comprise the best classification extant, and not drop out a class save under exceptional circumstances. We must also again express our disappointment that the untrimmed class is allowed to remain; but we do not blame the Committee one-half as much as the exhibitors generally, for there were twenty-nine entries last year, and that means £10 17s. 6d. in entry fees, and as the cup was given only £2 came from the Society's funds, and they therefore netted £8 17s. 6d.; but we do wonder such exhibitors as Messrs. Leno, Petter, Beldon, Lingwood, &c., competed. Was the class only for "Vulture-hocked Asiatics" we would welcome it gladly.

Langshans have a class and a cup presented to them by their champion. We wonder if Black Cochins from a Black Cochins yard will obtain it. It is truly ridiculous to find what fanciers think of this title, and to see how Black Cochins generally win the club's prizes or those given by their supporters. An exhibitor whom we know recently won the Langshan cup at a show, and wrote to us afterwards thus:—"The Langshans I must tell you are the expiring effort of my Black Cochins. Having determined to get rid of my whole stock of them, and to please one of the Committee I sent a pair to that Show in the Langshan class, hoping they might sell. I was rather dismayed at their success, and shall be very glad to be quit of them all." Among the other classes we want to say a word for the Turkeys. They have three divisions here, and we do hope the pens will be properly divided and that we shall see no more of those sanguinary fights as we did at the Dairy Show, where two lady exhibitors had to go out to buy canvas wherewith to divide their pens more securely, for the cocks were utterly ruining each other's appearances by fighting; and their pens too should really be larger, for the one in which Mrs. Wyke's Turkey cock was at Islington could not hold him. And we do sincerely hope the Turkey chicken classes will only have poult this year in them, for we can all remember what many said last year when old birds were supposed to have won prizes for chickens, and how the protest was, we believe, not noticed by the Committee. We are very glad to see the managing body have made a concession regarding the double baskets, and after the unpleasant facts of last year's disqualification they have done most wisely in stating in their sixth rule that when fraudulent practices are subsequently discovered the prizes will be withheld.

The Judges are much as usual, though the Rev. C. C. Ewbank and Mr. Maldon have been engaged for the French and Black Ducks. We should greatly have liked to have seen a larger amateur element; one for Dorkings, another for Cochins, and another for Brahmas would have amply repaid, we are sure, in

entries any extra expenditure. We should much like to know what each Judge will do, and cannot understand why this should not be known, for a mere string of names is as useless as none at all.

There are a few new Pigeon classes, and there appear to be lots of new Pigeon fanciers, so we hope the classes will obtain very many entries. The collections of four pairs of Pigeons other than Carriers, Pouters, and Tumblers still remain, and always make to our mind a great feature of the Show. Mr. Howard is still the Secretary, and Mr. Crook the Treasurer; the names of the remainder of the Committee do not transpire, but the schedule of rules and regulations is signed by their order by Mr. Howard. We have every confidence of a great show again, and we shall be delighted to see such an one; and the sight of some of last year's inmates of the Palace interspersed with the chickens of this season will be very pleasing, for in the number of the past chicken shows we seem to have quite learnt to know the peculiarities and appearances of most of the youngsters, though, of course, many will appear here which have never before seen the walls of Messrs. Turner's and Billett's cages.—W.

MOULTING FOWLS.

THE moulting season is the most critical period of the year for old fowls; and yet in ninety-nine cases out of a hundred there is less care taken than in the spring, when everything is in their favour. The idea seems to be, that now the young stock is out of harm's way, they can all shift for themselves.

Some have much more difficulty in moulting than others. Spanish are a long time naked. All the non-sitters feather more slowly than the others. It may be because they lay a greater number of eggs, and that the production of them causes more exhaustion of the system than the twenty-one days of the sitters. Certain it is, however, that moulting is an effort, and taxes the bird so much that at such a time any old weakness or partially cured disease is sure to show itself again. Thus where roup has existed in a poultry-yard it always re-appears at moulting time.

Perhaps many readers have never considered the great drain upon the system of the fowl during this change of covering. Not only have the regular flesh-forming, life-giving processes of Nature to be fulfilled, but an entire new coat of feathers has also to be manufactured. These feathers consist not of flesh and blood alone, but of component parts of animal and mineral substances. These substances are assimilated from the food, and unless birds can obtain such food as contains the necessary qualities the work drags, is prolonged, and the poor fowl droops and grows thinner in the vain endeavours to fulfil Nature's requirements without the proper means to work with. I doubt if one person in twenty has ever given this a thought, and yet it is of the utmost importance to thorough and complete success in raising first-class stock.

Birds that have their full liberty and are well fed always moult well; but when they are kept in confinement, care and precaution are generally necessary. The effects of food may be proved by a fact. Quails are exceedingly fond of hemp seed. This is of a very heating nature, and if they are allowed to eat too much of it their plumage becomes nearly black. If they are fed entirely on it, their bodies are so heated that everything is dried up and no nourishment is possible. Their feathers, like plants, die for the lack of moisture. If improper food has this effect, then judicious feeding ought to assist. When birds are moulting they must have plenty of cooling food, and there is none so good as lettuce; if it has gone to seed and stalking so much the better.

Sometimes a fowl will be seen while moulting to be continually pecking or scratching at one spot of its body. On examination it will be found that one or more feathers have failed in passing through the opening in the skin that is provided for the purpose. They keep on growing, but they grow beneath it. This causes much pain. It is common in the top-knots of Polands, but the remedy is a very easy one; take a stout needle and pass it under the quill end of the covered feather, then draw the feather from under the skin. An abundance of warming nutritious food is needed at this time, and a tonic of some kind may also be given. Stale bread soaked in old ale given two or three times a week is said to be beneficial; but perhaps one of the best things to use is one-half pound sulphate of iron (green vitriol), one ounce sulphuric acid, two gallons of water. Put a teaspoonful of this mixture to each pint of water in the drinking fountain, and keep it by them during the whole time of moulting.

One thing requires to be watched; they will sometimes, in a dissatisfied habit of body, begin to peck and eat each other's feathers. If a fowl does this it should at once be removed, as it will teach others the same habit.—(*Stock Journal*.)

BERMINGHAM CATTLE AND POULTRY SHOW.—The schedules of prizes for the above important Exhibition, which has now reached its twenty-ninth year of existence, are in circulation,

and intending exhibitors are reminded that all entries must be forwarded to the Secretary, at Bingley Hall, on or before Thursday next, November 1st. The lists have in past years been so liberally extended that little change has now been thought necessary, the premiums ranging in the cattle department from £100 down to £5 for the leading breeds, which are kept distinct throughout, besides the President's twenty-five guinea cup, the Elkington 100-guinea challenge cup, and other valuable trophies. The amount devoted to this division is close on £1200. The poultry list will be augmented by the addition of classes for Black Cochins, Leghorns, Langshans, Andalusians, and Silkies; and several additional cups are given to the Pigeons, the prizes for which amount to about £850. New Selling classes have likewise been introduced for all breeds of poultry, Ducks, and Pigeons, the entrance fees in these classes being at a reduced rate.

OUTDOOR RABBIT HUTCHES.

LIKE all other animals Rabbits in domestication require to be very carefully housed, without which they will not give satisfaction to the keeper. There are many varieties of hutches, but as a rule the simplest and warmest are the best. Sometimes the only houses provided are tubs or barrels turned on one side, and short planks nailed across the bottom to make a level floor. As they bulge out in the centre and go smaller at the ends they make very suitable hutches for single Rabbits but do not answer generally for breeding, although some of the harder varieties, especially the common Grey, will breed very well in them. The mode of construction is very simple. Instead of nailing-in the floor it is best to have the planks loose and fitted in a groove. If a space of half an inch between each be left the cleansing process will be much facilitated, as the boards can be removed and the bottom washed. For the front a square frame should be made about the size of the bottom square, the interstices being planked over. This will give both air and retirement, and will be very satisfactory. The frame should consist of wooden slabs nailed on cross pieces. The slabs should be 2 inches wide and 1 inch apart. If the Rabbits gnaw the bars, as they sometimes do, their mischief can be stopped by fixing a piece of copper wire near each edge. If preferred iron netting may be nailed over, but it is a trifle too cold for an outdoor hutch. Perhaps the best of all are iron hoop bars, which may be nailed on as the wooden ones. They cannot be gnawed, and they tend to strengthen the frame very much. The top of the tub should be covered with felt to keep the wet out, and it will be found economical to tar or paint this, as otherwise it would soon rot and want renewing. It need not be nailed down, but is better laid on loose, so that it can be shaken occasionally and thus kept free from vermin. The framework referred to, and which is much the same for all outdoor hutches, should be very strongly made. Four pieces of wood the proper size nailed together will do and last for some time, but the proper way is to dovetail the pieces together, using glue and a screw at each junction. The wood should be at least three-quarter-inch or it will not be sufficiently strong. The iron bars should be put on evenly and upright. If you are short of tools take the hooks to a blacksmith, who will cut them to any length—and the lengths are easily measured and chalked—and will moreover make the holes in each for the nails by which they are to be affixed to the solid frame. For about sixpence this can be done, and it will save much trouble. If the hoops are broken to the desired lengths the edges will be rough and never look well. If it be desired to do matters extra well, and so as to be very durable, the bars should be screwed on. Great care should be used not to split the frame, and if a little red lead be put in the screw holes it will be well. Of course one screw each end will be enough. If preferred the bars may be put between two pieces of board for the frame, and the two pieces screwed together. There is some difficulty in putting them together like this, but they will last a very long time if once well done, although for ordinary wear and tear it is not necessary. Barrels are sometimes merely stood on end under a shed and used as hutches. This form is very useful for a day or two on a sudden addition being made to the rabbitry beyond the strength of the hutches, but it is not to be recommended for several reasons. Not only does it look untidy and unfinished, but it also places a great temptation in the way of cats. Besides this there can be but little comfort for the Rabbit and the waste of space is enormous, the height being so much more than can be necessary. Still, as previously remarked, there can be no objection to a temporary hutch being formed in this way.

A good strong case—such as can be bought from egg-importers, grocers, and others—will make a capital outdoor breeding hutch, and a very inexpensive one into the bargain. A wire case is the best, but they are generally very expensive. I once had one made of 1½-inch boards with each plank dovetailed into the next, so that it was both water and damp proof. It was given to me, but I think it would cost at least half a sovereign. A suitable case can be purchased for much less than a quarter of that sum. Let the length be from 2 feet 9 inches to 3 feet 6 inches,

the depth from 1 foot 6 inches upwards, and the height a foot or upwards. In any event there will be a few little holes which should be seen to. It is best to nail a slab over any hole. If the wood is thick this course will be quite sufficient; if, however, the thickness is only half an inch it is advisable to nail a thin slab along each joint and a thick slab crossways. If a few bands of iron be used it will also strengthen the frame, a necessary precaution if the hutch is ever likely to be removed. The next thing will be to provide a nest place for the young. The way to do this will be to divide the hutch into two parts, one of which should be at least double the size of the other. The partition should be of thick boards, say an inch or $1\frac{1}{2}$ inch; this will be a great strengthener to the hutch itself, and will keep the top in its place, otherwise it will be a little liable to fall in, in which case the front will not open well. There will have to be a hole for the Rabbits to get through—a circular one about 5 inches in diameter. The edges should be rounded and tinned to prevent gnawing. The frame will have to be the exact size of the outside portion, the door for the smaller being made small for the purpose of increased warmth and privacy. The floor should be planed as smooth as possible to facilitate cleaning, and the harder the wood the better will be the result. A small rack should be put up at the corner farthest from the sleeping compartment to hold hay and green stuff. This will keep it clean and dry and save a great deal of waste, as the Rabbits do not care about food after it has been trampled upon. The roof should be protected to keep the wet out. A second layer of boards is perhaps the best plan, and the next is to nail a piece of carpet or felt over it. In any case the top should extend a few inches beyond the front to prevent the rain from beating in.

A shutter should also be constructed the exact size or perhaps a little wider than the front. This can be let down at night or in wet weather, and if a padlock be used will be some protection against biped and quadruped nocturnal marauders. The whole of the outside of the hutch should be well painted with two coats of good brown or buff paint, and the inside should be whitewashed. Both should be renewed every spring, and the hutch will be found to last longer if this matter be well attended to.

In selecting a place for an outdoor hutch a high fence or wall should be preferred, as by that means both wind and rain will be kept off. A corner at the junction of two high walls is very good.—GETA.

IMPORTATION OF EGGS.—Last year the value of the eggs imported into England was £2,612,231, but even this large importation failed to satisfy our requirements, and the high price of eggs in the market at the present time shows that we can buy more and eat more if we can only get them. It seems probable that substantial help in this as in other matters relating to food supply will come from the other side of the Atlantic. Canada is establishing an egg trade with us which promises to assume important dimensions. Last week one steamer alone brought to Liverpool from Canada 250 barrels of eggs, and there is every prospect of a continuous stream of eggs setting in from that country. The Canadians cannot, in fact, keep up their hens, who lay more eggs than the colony can consume. The market report of the Hamilton (Ontario) *Spectator* of the 9th of August mentions that eggs were "very quiet," there being really no wholesale trade in them at present. In Ottawa fresh eggs were selling at 12 cents—that is, 6d. a dozen. Eggs at this price would be a boon to the British housekeeper, and might take the place of meat, in which case there would be less grumbling and gout.

ARTIFICIAL FOUNDATIONS.

OUR transatlantic friends quite transcend the British bee-keepers in experiment and invention. Almost every modern invention in bee-keeping is an outcome of American activity, and comes across the Atlantic Ocean to us. While we are hardly half awake to the possibility of improvements the American apianians compass and perfect them. While John Bull is putting on his boots our friends across the water can travel across a continent. The American bee-keepers have bluer skies and warmer summers than we have, and therefore have greater encouragements to make exertions and experiments. The exertions made do not all end in important discoveries, and many of their inventions are of no practical value. The impressed sheets of wax called "comb foundations" are in my humble opinion the best things that ever came from American bee-keepers to this country, as they are likely to be extensively used when their practical value becomes known. What I now say is nothing more than opinion, for I have not tested by experiment the worth of comb foundations introduced into hives. A few weeks ago I asked Mr. Hunter of Ealing to send me a small bit of foundation comb for examination. As this year's consignment had not arrived, he sent me a bit of last year's lot, which came safely by post, and which I admire much. It is a capital imitation of natural comb, so perfect in form and manufacture

that every apianian who examines it cannot avoid admiring the ingenuity and machinery which produce it. It is rather darker in colour than natural virgin comb, and I fancy the walls of the cells are slightly thicker and contain more wax than natural comb. In a note accompanying the small piece of comb foundation referred to Mr. Hunter says that "this is rather a thin sample as readily accepted by the bees, but not so quickly worked-up into comb, the bees having to supplement the supply of wax from their own resources. The sheets are made from 4 to 9 square feet to the pound, the heavier furnishing ample wax for the bees to complete the combs."

The value of these wax foundations to the bees and bee-masters is still, of course, an open question, and doubtless various and differing conclusions will be come to by apianians when extensive experiments are made with them. All I can say at present is that I have formed a very favourable opinion of them, and that if the bees take to and adopt them readily they will be useful in many ways, especially in supering. But comb foundations meant for supers should be made of wax well bleached, and made as white as possible. We all know that wax, like flax, is bleachable. If bees readily adopt comb foundation bee-keepers will find it an easy matter to entice their bees to commence work in supers. A few large pieces of foundations fitted in supers and running from tops to bottoms will serve to draw the bees into them as soon as the hives on which they may be placed become full. For swarm hives meant for stocks comb foundations of a darker colour, or made of wax not so well bleached, may be used. For swarm hives nothing but bee comb foundations should be introduced, and for supers nothing but drone comb; the reasons for so doing are easily understood.

By using two or three sheets of foundations in swarm hives it is likely that all the eggs queens may lay after swarming may be set for brood. When swarms are placed in empty hives the bees have not cells enough for the eggs laid by their queens, and almost invariably place eggs in cells before their natural foundations are well laid. The walls of the cells in swarm hives are frequently built up and around the eggs placed on their foundations, and doubtless if artificial foundations answer the end for which they are made eggs will be set in them before they are completed. I will not venture to say more about these American sheets at present. My object in noticing them now is to help Mr. Hunter in calling the attention of bee-keepers generally to them. According to the statement made by Mr. Hunter in this Journal a few weeks ago the price of these sheets of comb foundations is very moderate indeed—2s. 6d. per pound if I remember rightly. My wax in the lump and unbleached sells readily at 2s. per pound. If it be found by experiment, ample and satisfactory, that bees readily adopt the artificial foundations and work them up into combs, we may safely predict that they will be extensively used by the bee-keepers of Great Britain and a very good account given of them.—A. PETHIGREW.

LIGURIAN BEES.

Mr experience of Ligurian bees is not very great, extending only over the past season, but during that time I have endeavoured to make myself as much acquainted as possible with their peculiar excellencies or deficiencies. A Ligurian queen was sent to me by Mr. Abbott towards the end of May. From a very large skep, holding about a bushel, I drove a swarm and introduced the stranger queen to the driven stock. She was received amicably, and at once proceeded to deposit eggs in the thousands of empty cells. Nine days after a powerful swarm was led-off by the Ligurian, and it joined itself to another swarm from a neighbouring hive. By casting all the bees upon a white cloth a yard or so in front of a bar-frame hive I managed to catch both queens under wine-glasses. I returned the black queen to the hive whence she had led the swarm, and to make all sure I placed the Ligurian for twelve hours in a cage and inserted it between the frames. She was duly released, and next day had deposited lots of eggs. Young Ligurians appeared twenty-six days after at the mouth of the hive. I had seen them first on the combs twenty-two days after the insertion of the queen. Gradually the powerful black colony died-out, and the third week in August none but yellow bees inhabited the hive excepting a few drones, which were soon after expelled. Meantime the Ligurian princess was proving herself a worthy successor, and young bees hatched-out after all those which must have been the progeny of the pure queen appeared to me to differ nowise from their older relatives either as to size or colour, although the young queen must have been fertilised by a black drone. Both hives made honey while the sun shone, and I was able to take a sectional super with five sections complete, and two nearly filled but not sealed, from the bar-frame hive before the honey season ended. Weight of seven sections 16½ lbs. Every frame, ten in number, was filled with beautifully built comb, started upon a guide of worker pattern mid-rib 4 inches deep. These combs are perfection for the extractor, all straight as a line. Four were taken out and given to a weaker stock, and I have kept my yellow-jackets busy fixing old

empty combs for me in frames, to use next spring for early swarms. They have abundance of honey in both hives for winter consumption, and breeding has been kept-up late by giving a small but constant supply of barleysugar. All my stocks are so fed in autumn. Syrup given at that time only supplies a superfluous amount of liquid, which is evaporated and renders the hive damp at a time when it cannot be kept too dry. Of course syrup must be given to increase rapidly the stores of a weak stock, but for gentle stimulative feeding I prefer barleysugar; the bees cannot take this too fast. I make a number of rough little boxes without bottoms or lids, about 4 inches square. In the place of bottoms I tack on a small piece of perforated zinc, that used for supering, and a small square of druggot or any warm covering is laid over the box. Thus all moisture escapes; the barleysugar is put into the box which is placed over the feeding-hole in the quilt, and the bees fetch it gradually, in quite sufficient quantities to stimulate the queen to continue laying.

But what was I writing about? Ligurians? Yes. Are Ligurians more energetic in searching for food, or have they the powers of scent more fully developed than our black bees? Whether it be the one or the other it matters not. If we can prove that they find food much more quickly than the black bees, then we at once find in them a recommendation to our favour. Let anyone with both black and yellow bees in his garden test this point for himself. I have done so a score of times. Place an unfinished super, a piece of comb with honey in it, or some scented syrup in a place unfrequented by the bees, say under a cabbage in a bed of that vegetable, and note the first bee that visits it. In nine cases out of ten it will be a Ligurian, and among the first dozen bees that pilfer the sweets there will be eight or nine Ligurians, or hybrids, as the case may be. Some have found their Italians much more irascible insects than the black bees. I cannot say that I find any difference in regard to disposition. Both kinds can be readily made perfectly docile by being first thoroughly intimidated by a puff of smoke and bribed by the gift of a little warm syrup in cases of emergency.

I find that my Ligurians visit flowers which I have never seen visited by our native friends. I have had flowers of *Tacsonia Van-Volxemii* blooming in my conservatory nearly all the year round. My bees have always visited the primulas, heaths, cyclamens, and many other flowers, but until I had Ligurians I never saw a bee on the *tacsonia* blossoms, neither on the flowers of the *tritoma*. Again, what insinuating rascals they must be. In seven different hives, when inspecting them previous to their going into winter quarters, I saw Ligurians. How they had got there and why they went there I leave others to answer, but not a single black bee can I find in my Ligurian and hybrid stocks. This fact tells me that they are more audacious and at the same time more tenacious of their own rights than their sombre sisters. Altogether I find myself, although only at the close of my first year's acquaintance, becoming a lover of the graceful Italian, and when I compare her with her Anglican sister I must say that I find my predilections strongly biased in her favour.—P. H. PHILLIPS, *Offley Lodge, Hitchin.*

CAN BEES EAT POLLEN?

"Do bees eat pollen?" is a question that was put and answered in this Journal some months ago. Can bees eat pollen? is a more difficult question to answer. Those who have studied the structure of the bee, and have made anatomical investigations of its head, are perhaps best able to answer this question. If any apian prove that bees eat pollen an anatomical examination will be quite unnecessary. The fact will establish the power. It is known that adult bees do live and are healthy for months without pollen; it is also known that pollen or bee bread is largely consumed by bee grubs before they pass into the chrysalis state. It is well known, too, what ravenous creatures caterpillars are, and how soon they skeletonise cabbage blades and gooseberry leaves; but after the caterpillars reach maturity and appear as butterflies they do not eat cabbage and gooseberry leaves. Bees and butterflies evolved and matured from maggots and caterpillars are altogether changed. After transformation do they possess organs and instruments for mastication? A bee-keeper in Scotland once told me that he soaked a boiled potato in syrup and gave it to a hive, and that the bees ate every bit of the potato. A Cheshire bee-keeper says he boils honey and pollen together for his bees, and that they thrive on it. I did not believe the Scotchman's story, neither do I believe that the bees of the Cheshireman swallow pollen. Often enough have I given honey polluted with pollen to bees, but never found them to fail in filtering the honey into their hives and leaving the pollen as dust in the vessels in which it was presented to them. Some three months ago I soaked a boiled potato and broke it up in syrup in a saucer which was placed on a board not quite full of combs. The bees took the syrup and well drained the potato, which lay next morning in the saucer dry and tasteless. Some time ago a gentleman in Altrincham told me he bought some honey of a grocer or chemist of that town for his bees, and gave

some of it to them in a trough. Next morning he found the bottom of the trough covered with flour. The grocer was told that his honey was impure, but he did not think it was so, and filled a clean trough himself and gave it to the bees. He returned next morning to examine the trough, when he found it covered with flour. In the face of these facts the question is asked, Can bees eat pollen?—A. PETTIGREW.

OUR LETTER BOX.

FOWLS IN CONFINED SPACE (*Hamburg*).—In a space 80 feet by 60 you may keep thirty stock fowls. They would not injure the trees planted in their run.

MARKING FOWLS (*W. B. P.*).—Nothing is easier than to mark poultry by putting a wire ring or sewing a piece of list round the leg, and this last is capable of development by enabling those who wish to do it to mark the different broods by using worsted or list of different colours. There is always difficulty in telling the age of hens. A very good judge may feel tolerably sure and justified in giving an opinion, but if he were asked to name the grounds on which his decision was based he would be unable to do so, and would hide behind generalities.

DUCKS BREEDING (*Mrs. W.*).—Ducks require water in the breeding season. They do perfectly well without it at any other time. The Aylesburys are the best layers, but they do not sit. The Rouens come next, and then the Buenos Ayrean; these last lay and sit well; they are also hardy. Your Light Brahmas will not lay before September, and that will depend somewhat on the weather.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.						Rain.				
1877.	Oct.	Barometer at 32° at Sea Level.	Hygrometer.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Temperature.		Radiation Temperature.							
			Dry.	Wet.			Max.	Min.	In sun.	On grass.						
We. 17	Th. 18	Sat. 20	Sun. 21	Mo. 22	Tu. 23	Means	Inches.	deg.	deg.	deg.	deg.	In.				
							30.373	40.9	37.8	W.	47.5	53.8	32.0	95.0	29.3	—
							30.370	33.9	33.9	N.W.	45.2	51.8	31.3	91.2	26.6	—
							30.268	39.1	38.0	N.W.	45.7	56.4	30.9	83.1	27.3	—
							30.146	47.2	44.5	W.	45.9	61.2	38.1	92.3	36.6	—
							29.988	54.0	47.2	S.W.	47.5	53.8	46.1	73.2	42.6	0.063
							29.830	57.7	54.7	S.W.	49.0	62.3	52.4	101.2	47.3	0.132
							29.611	45.4	45.3	N.	49.0	56.7	40.2	62.6	36.2	0.154
							30.033	45.5	43.1		47.0	57.3	38.7	85.5	35.1	0.239

REMARKS.

- 17th.—Strong white frost in morning, beautifully fine and bright during the day, and at intervals cloudless; rather cool.
 18th.—Very foggy morning, fine day, foggy again at night.
 19th.—Rather foggy, pleasant after 11 A.M., and beautiful night.
 20th.—Very fine and very pleasant day; much warmer.
 21st.—Very dull all day; windy in afternoon and evening.
 22nd.—Windy with occasional showers; fine night.
 23rd.—Dull and thick morning, rain at intervals till 6 P.M.; fine and moonlight after.

Cooler than the previous week, but in no way remarkable.—G. J. SYMONS.

COVENT GARDEN MARKET.—OCTOBER 24.

A BRISKER market the last few days, and clearances in Apples have been more readily effected, though with no alteration in rates. Large quantities of Pears still reach us from the Continent, consisting mainly of Duchesse d'Angoulême and Bône Diel. Cobs are easily cleared at last week's quotations.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	½ sieve	1	6	to 3	Melons.....	each	1	6	to 4
Apricots.....	dozen	0	0	0	Nectarinae...	dozen	4	0	18
Chestnuts.....	bushel	0	0	0	Oranges.....	½ 100	10	0	16
Currants.....	½ sieve	0	0	0	Peaches.....	dozen	3	0	24
Black.....	½ sieve	0	0	0	Pears, kitchen..	dozen	1	0	3
Figs.....	dozen	1	0	3	dessert.....	dozen	2	0	4
Filberts.....	lb.	0	4	0	Pine Apples...	lb.	5	0	8
Cobs.....	lb.	0	4	0	Plums.....	½ sieve	10	0	12
Gooseberries...	½ bushel	0	0	0	Raspberries...	lb.	0	0	0
Grapes, hothouse	lb.	1	6	0	Walnuts.....	bushel	5	0	0
Lemons.....	½ 100	6	0	10	ditto.....	½ 100	0	0	0

VEGETABLES.

		s.	d.	s.	d.			s.	d.	s.	d.
Artichokes.....	dozen	3	0	to 6	0	Mushrooms.....	pottle	1	6	to 2	0
Beans, Kidney..	bushel	2	0	4	0	Mustard & Cress	punnel	0	2	0	4
Beet, Red.....	dozen	1	6	3	0	Onions.....	bushel	0	0	0	0
Broccoli.....	bundle	0	9	1	6	pickling.....	quart	0	4	0	0
Brussels Sprouts	½ sieve	4	0	0	0	Parsley... doz.	bunches	2	0	0	0
Cabbage.....	dozen	1	0	2	0	Parsnips.....	dozen	0	0	0	0
Carrots.....	bunch	0	4	0	8	Peas.....	quart	0	6	1	0
Capsicums.....	½ 100	1	6	2	0	Potatoes.....	bushel	3	6	5	0
Cauliflowers...	dozen	2	0	4	0	Kidney.....	bushel	5	0	7	0
Celery.....	bundle	1	5	2	0	Radishes... doz.	bunches	1	0	1	6
Coleworts doz.	bunches	2	0	4	0	Rhubarb.....	bundle	0	6	1	0
Cucumbers.....	each	0	3	0	9	Salsafy.....	bundle	0	9	1	0
Endive.....	dozen	1	0	2	0	Scorzonera...	bundle	1	0	0	0
Fennel.....	bunch	0	3	0	0	Seakale.....	basket	0	0	0	0
Garlic.....	lb.	0	6	0	0	Shallots.....	lb.	0	3	0	9
Herbs.....	bunch	0	2	0	0	Spinach.....	bushel	2	6	4	0
Lettuce.....	dozen	1	0	2	0	Turnips.....	bunch	0	3	0	6
Leeks.....	bunch	0	4	0	0	Veg. Marrows..	each	0	2	0	4

WEEKLY CALENDAR.

Day of Month Week.		NOVEMBER 1—7, 1877.		Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.		Clock before Sun.		Day of Year.	
				Day.	Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.	Days.	m.	s.			
1	TH	ALL SAINTS' DAY. Kämpfer died, 1716.		54.3	37.9	46.1	6	56	4	31	1	38	2	45	26	16	20	805		
2	F			51.4	37.3	45.8	6	58	4	29	3	4	2	56	27	16	21	306		
3	S			53.5	35.9	44.7	7	0	4	28	4	31	3	12	28	16	20	307		
4	SUN	23 SUNDAY AFTER TRINITY.		52.1	36.6	44.3	7	1	4	26	5	59	2	29	29	16	19	308		
5	M			52.9	37.2	45.0	7	3	4	24	7	27	3	50	●	16	17	309		
6	TU	Royal Horticultural Society—Fruit and Floral Com- [mittes at 11 P.M. Camerarius born, 1534.		53.4	37.9	44.7	7	5	4	22	8	54	4	19	1	16	15	810		
7	W			52.1	36.7	44.4	7	7	4	21	10	13	4	59	2	16	11	811		

From observations taken near London during forty-three years, the average day temperature of the week is 53.1°; and its night temperature 37.0°.

GRAPES CRACKING.



OUR correspondents, Messrs. Taylor and others, seem to think they can stop the cracking or splitting in the Madresfield Court Grape. Mr. Taylor, indeed, can do it instantaneously. I only wish he would try his hand on a couple of Vines here, or reconcile their vagaries in that respect with his hypothesis on the subject.

We have two Vines growing in the same house and entirely in an inside border. One Vine is in the middle of the house, and the other is at the west end where it has the most light. Both Vines are planted in the middle of the border—that is, equidistant from the front and back walls, and one is trained down the rafters and the other is trained both up and down, a shoot diverging each way where the stem reaches the wires. Both Vines were planted in 1870, and they are moderately vigorous, but the one that is trained downwards is the strongest, and has always the finest foliage, though it has not been allowed to extend an inch for some five years, and the sap is forced directly into the spur-trained shoots, fruiting or otherwise, and which are every year stopped methodically in the usual way. The Vine at the end has been allowed to extend a foot or two, but otherwise it has been treated like the other; and with this exception the breadth of foliage developed on each every year, and weight of crop, has been as nearly as possible the same.

And now for the "cracking." The fruit cracks less or more on both Vines, but the end Vine is always much the worst. This season there was not a bunch on it that did not crack, some very badly; whereas on the Vine in the middle of the house there was not a single bad berry, so far as I am aware, and the last bunch is still hanging on the Vine dead ripe and partially shrivelled; and yet this Vine, according to Mr. Taylor, is just the one that should have cracked berries. It is the strongest Vine, has the most succulent foliage, the sap cannot go anywhere else but into the lateral shoots and those which bear the bunches, and no attempt has been made to check the growth as Mr. Taylor directs. Besides, this Vine gets considerably the most water at the root, for it has to take its chance with the others, chiefly Alicante and Lady Downe's, and we water as copiously as most people. Contrary to what it ought to do, too, the Vine at the end begins generally to go off on the bottom limb first, though it is the weakest, the sap turning by preference into the top limb in its ascent. I may just say that the crop, including the Madresfield Court, has coloured as well this season as I have ever known it do.

Leaving the problem here propounded for your correspondent to solve, I ask, in conclusion, why cracking should always be supposed to be produced by the force of the sap from within? Neither in the case of the Madresfield Court nor the Chasselas Musqué Grape does any sap flow out when bursting occurs. Before the berry cracked by distension one would expect the sap to ooze

through the pores of the skin, as it does in the case of the Lady Downe's Grape when the fruit is allowed to hang on the Vine till the sap begins rising in the spring, but it does not.

To me the cracking has always appeared to be just the same as that which appears on chapped hands and on the lips of human beings, which is caused by external cold and exposure. It is a curious fact that in the case of the Vine at the end of the house, to which I have already referred, the sun shines directly on the bunches for a long while every afternoon; whereas on the other Vine, where there is so little cracking, the bunches are much shaded, as the Vines are trained only 2 feet asunder and the foliage covers the roof entirely in every part.

If any of your correspondents can give information on this point it may throw a new light on the subject of the cracking of Grape berries.—J. S. W.

JOTTINGS ABOUT APPLES.

WITH hundreds of varieties to choose from, and half a dozen all that are really necessary, the difficulty is not to find six first-class Apples, kitchen or dessert, but the varieties that will meet our wants best over the longest season. An old servant is none the worse for being old—the reverse. With old favourites we have coupled long and tried services and other pleasant remembrances. The old Keswick as soon as ever they are big enough we can either eat, bake, or boil. For use to the middle of August plant sufficient of the Keswick. I once in the month of August heard a person engaged in the judging of kitchen Apples remark that he did not like the Lord Suffield, there was no weight in them. These are of the difficulties exhibitors meet with; an Apple in season—the correct thing—may or may not be appreciated. For use from the middle of August to the end of October plant Lord Suffield, and when it fails in having a crop Apples in that district will be scarce. For use from the end of October to Christmas plant Ecklinville Seedling, and of all Apples I do not think you will find a larger, or one more taking in appearance, or, of more importance as a surer bearer. From Christmas to the latter end of March I know of nothing superior to Warner's King, it will answer all kitchen requisites. To fill up the intervening space is perhaps not difficult, but I am so taken up with a local Apple grown in two or three places in Northumberland that I shall claim the liberty of naming it. A friend (Mr. Harkness of Allendale Town) last June sent me a present of a few as sound as when pulled; and in addition to good keeping qualities they were of good size and passable for table purposes. It is known as the Gateshead Lemon Pippin. Two others I strongly recommend are Cellini and Manks Codlin; they crop well, in fact are of our hardiest Apples, and will in a strait pass muster for eating.

And now for dessert. I place the Early Margaret first; its blossom will stand a little frost, and it is a good cropper. Follow this with Irish Peach, next Kerry Pippin, and then plant to the full extent Cox's Orange

Pippin, winding up for the season with Court-Pendu-Plat. Add to this list any for which you may have a fancy, and as far as need requires you may safely pass by all the rest. Though do not for a moment let it be considered that I hold this to be the best possible selection that can be made; I only contend that it is a good selection. In fact I rather regret to leave out such Apples as Dumelow's Seedling and the new Hawthornden.

And now about planting. When I plant a Gooseberry bush I do no more than rake a piece of soil, place the bush on the site raked, spread out the roots and cover them over like a good-sized molehill and in proportion. I prefer this to deep planting. A stake will steady a bush the first year; it will protect itself afterwards. You will have clean fruit when your neighbours' is dirty, and your bush will grow none the worse for having beneath it the increased depth of soil. With a clay bottom good drainage is the most necessary thing. If the bottom is poor, rotten, and cankerous, then you must make a sound one; one 2 feet deep will answer all purposes. I will take it for granted that any reasonable expense will not be allowed to stand in the way of good results. One ton of the best cement can be purchased at from £2 to £2 5s., and to this can be added from two to three parts of sharp sand, but test its strength for yourselves. If you get it sufficiently hard to put the soil on without injury it will keep getting harder afterwards. This secured, set to work and throw out a trench say 6 or 8 feet wide, leaving it round in the middle, and on either side put a drain tile just sufficiently deep to carry off the surplus water. Let the bottom of the trench be smooth; then take the parts of cement and sand, mix one part of each, and spread it with a plasterer's trowel thinly over the bottom; a quarter of an inch thick is sufficient. As soon as it is sufficiently hard throw back your soil, with an addition of as much burnt rubbish as you like, but let all the necessary manure be spread over the surface.—JOSEPH WITHERSPOON, *The Vineries, Chester-le-Street.*

AUTUMN PERENNIALS FOR SHRUBBERIES.

THERE is a dearth of flowering shrubs in autumn compared with spring, and wild flowers too are scarce. We have, it is true, the glorious tints of the fading deciduous shrubs and trees; but oh! how short-lived is their beauty! One little frost and a breath of wind, and all is over. Annuals are often recommended for the sides of woodland walks, but they are seldom satisfactory; even if birds, reptiles, and insects allow them to grow, most of such as will thrive in such positions have rather a weedy appearance, and by the end of summer are rather an eyesore than otherwise. Ordinary bedding plants have an air of vulgarity about them when placed against shrubs, or indeed against any good foliage, a mass of Cannas edged with scarlet Geraniums in Battersea Park this summer to wit. The colour was right, but something in the habits of the two plants did not harmonise. A few plants (not a continuous line) of *Gladiolus Brecheleyensis* in lieu of Geraniums would have made all the difference. I have nothing particular to say against bedding plants so long as they are kept to the beds, but bedding plants in mixed borders, subtropical beds, or around and amongst shrubs, are about as incongruous as winding walks and London rockeries in a vegetable garden. There is, however, something about the better class of herbaceous plants which claim our respect if we are not too bigoted. A plant here and there suitably placed can be made to look like part and parcel of the whole concern rather than like interlopers or tenants-at-will. Those I shall name are such as will almost take care of themselves when once well planted, needing no protection, no guarding from insects, and little or no tying-up.

It must not, however, be supposed that all herbaceous plants need so little attention. There is no place in the flower garden which takes up so much time as the herbaceous borders where there is anything like an attempt to keep them in good order; and besides this, ordinary labourers and young gardeners can hardly be persuaded to take an interest in this class of plants. With regular lines and bright colours the superintendent's work is light, but to have herbaceous or mixed borders well attended to there must be someone in charge of them who has some pretensions to the possession of taste as well as a little aptitude for learning names. The following are taken at a glance along the borders as those which are likely to stand the roughest treatment, and yet they are all really good. It would be an easy matter to extend the list, but many of the prettiest

plants have such horrible long ugly names that there is a danger of frightening beginners with an extended list.

The queen of hardy border flowers is of course *Anemone Honorine Jobert*, also called *A. japonica alba*, but it certainly is not a white variety of *A. japonica*, as it is distinct in foliage and habit. *Anemone vitifolia*, also called *A. hybrida*, is a pinkish variety nearly equal to the above, and growing to the same height—about 2½ feet. *Anemone japonica* is also very beautiful, but it does not succeed with me as well as the other two; it, however, grows well in most places. I think all three of them, though they look well almost anywhere, are best as specimens about 2 feet through on the grass.

Tritomas or Torch Flowers are suitable for similar positions, and the effect of coming suddenly along a winding walk to a large patch of *T. Uvaria glaucescens* backed by dark green foliage is almost startling. *T. grandis* is a later and larger variety, flowering from October to Christmas. Its flowers are equally as bright as the preceding, but they are not quite so freely produced.

All kinds of Lilies are admissible in the shrubbery. Most of them, perhaps all excepting *L. candidum* and its varieties, do best in light soil which does not hold too much wet in winter. Peat suits them admirably, and they can generally be grown along with American plants. *Lilium speciosum* (syn. *lancifolium*) and *L. speciosum album*, *L. punctatum*, *L. eximium*, *L. excelsum*, and of course *L. auratum*, are specially to be recommended for such positions. *L. tigrinum*, *L. tigrinum Fortunei*, *L. aurantiacum*, and the Martagon Lilies, are not so particular about the texture of the soil.

Helianthus multiflorus and *H. multiflorus plenus* are very telling perennial Sunflowers, growing 3 to 4 feet high and flowering all through the summer. *Patrinia scabiosifolia* is something like a single Sunflower, growing the same height, and is extremely pretty. The Golden Rod, *Solidago multiflora*, also growing 3 or 4 feet high, and the dwarf variety named *S. reflexa*, are very showy without being vulgar-looking. *Monarda*, generally called Bergamot, have perfumed foliage as well as handsome flowers suitable for cutting, and the best is *M. didyma* (syn. *M. Kalmiana*), a bright scarlet about 18 inches high. *Achillea Ptarmica plena* is an attractive pure white flower, very useful for cutting, and almost always in bloom; it also grows about 18 inches in height. *A. aurea* and *A. Millefolia rosea* are likewise good.

Among Michaelmas Daisies (Asters) are a great many weeds not worthy of cultivation, but on the other hand there are some varieties which are very beautiful, and these are as easy to grow as the most worthless sorts. To my mind the best of all is *A. longifolius formosus*, a rosy lilac, very free-flowering variety. *A. Amellus* is a large-flowering purple variety of dwarf habit. *A. horizontalis*, called here "Farewell Summer," is also very pretty, and so is *A. pendulus*. *Galatella cana*, 3 feet high, with small lilac flowers similar to an Aster, is good, and so is the dwarf variety called *G. hyssopifolia*. *Schizostylis coccinea* is a beautiful *Gladiolus*-like flower, but it is rather late in opening, so that, excepting in sheltered situations, it is liable to be cut off by the frost just as it is coming to its best. It is a fine plant for autumn work in pots.

Amongst other plants I have jotted down as suitable for edges of shrubberies are *Polygonum Brunoni*, *Tritonia aurea*, *Colchicum byzantinum*, *C. autumnale album*, *C. autumnale plenum*, *C. autumnale striatum*, and in fact all *Colchicums*; but autumn *Crocuses* are not so safe where there are rats or mice. Funkias, too, are good for this purpose; *F. Sieboldii*, *F. Sieboldii variegata* and *ovata*, are among the best. *Sedum Fabaria*, *Phygelius capensis*, and the Monkshoods, *Aconitum Napellus*, *A. Napellus bicolor*, and *A. autumnale*, are also hardy and showy.—WM. TAYLOR.

VENUS'S FLYTRAP.

THIS is a most interesting little plant, and one that should be more extensively grown than it is at present. I was visiting a friend at Preston, Lancashire, last year, and was taken by him to look at a collection of plants belonging to Mr. Foreshaw, an enthusiastic amateur of that place. There were many very good plants in the stoves and greenhouses, but the one that arrested my attention most was a beautiful pan of the *Dionæa muscipula*, or Venus's Flytrap. This year I saw that the same plant, or rather pan containing a number of plants, was exhibited at the summer show at Preston and was much admired. Some of our best gardeners, and amongst them Mr. Baines, had stated that they had never seen this

plant so well grown. I wrote for information as to the treatment it received; and Mr. Lanchlan Black, who has potted most of Mr. Foreshaw's plants for the last three years, writes as follows:—

"I consider this to be one of the easiest plants to grow with which I am acquainted. Some persons fancy that it can be grown in a greenhouse, or even with the protection of a cold frame, but it will not thrive under such circumstances. The best compost to grow it in is very fibry peat, sphagnum, potsherds, and lumps of charcoal, and the sphagnum ought to be encouraged to grow on the surface. It does best in a shallow pan well drained. The plant is now at rest and will make but little growth until the early spring months, and as soon as growth commences shake all the old potting material from amongst the roots and divide the mass of plants into single crowns. The potting material should be raised above the rim of the pan in the centre, then the strongest crowns should be planted in the centre and the smaller plants nearer the edge. The best temperature in winter is one from 50° to 55°, but as soon as the plants are potted in the spring the pan should be removed to a warmer house; a Cucumber house with a night temperature of 70° answers as well as any. During the whole of the growing season a plentiful supply of water is required. During the winter season enough water should be given to prevent the sphagnum from drying. The plant should not be placed in a draughty place, and it succeeds best in a still, warm, and moist atmosphere."

Such is the result of Mr. Black's experience, and I can confirm it from some little experience of my own. I grew a plant during the summer in a case with Filmy Ferns; it is now in the Cattleya house, where it will remain until the spring, and will then be potted as above and be transferred to the Cucumber house.—J. DOUGLAS.

WINTER CUCUMBER CULTURE AT EASTNOR.

WHEN visiting Earl Somers' renowned garden recently—renowned not more by the great taste and liberality of its owner than by the well-proved ability of the gardener—I was struck with the excellent condition and great promise of the winter Cucumbers. The Grapes were nearly all cut, the Melons on their "last legs," the Fig trees barren—the barrenness of October, and the Pines appearing as if halting between two seasons—summer and winter. They are grown with an object, and for a time, and that time for ripening, not now; but the Cucumbers had the appearance of having enjoyed a genial spring and were entering on summer instead of having been guided through autumn and on the eve of winter. They were so fresh, clean, strong, and springlike as to demand a note, a note of high commendation; a seasonable note too, for do they not teach an useful lesson at a seasonable time?

A mere sight-seer, I mean one of the many who admire flowers and enjoy fruits even when growing, but who are not initiated into the modes of cultivating what they inspect, would perchance see little to admire in the Cucumber house at Eastnor in October. Even the young enthusiastic professional impatient to make a name and a mark, might not be entranced with the steady, yes steady (mark the word), practice of a Coleman in growing Cucumbers on the threshold of winter. Probably when the ardent youth lived at so-and-so, had full charge there, the trellises were laden with fruit at this season of the year, but at Eastnor only a few Cucumbers were to be seen! That is just the point, the important point too, in winter Cucumber culture. Better, far better, than a crowd of fruit was the stout natural-looking foliage and the thinly-trained shoots: more attractive than a fruit-laden trellis were the vigorous white roots creeping out of one turf and into the next, so active that in fancy one might almost see them move. That is the condition in which Cucumbers should be now from which fruit is expected from November till March.

Strong early growth, a well-covered trellis, yet the shoots thinly disposed, leathery foliage bright and clean, active healthy roots bridging air spaces between turfy soil, and little or no fruit, should be the October standard for winter Cucumbers. That was their state at Eastnor on the 22nd ult. Evidently the temperature, ventilation, and atmosphere had been well managed: the soil, too, was simple yet effectual, and forbearance had been exercised in restricting the bearing of the plants. Precocious fruitfulness is the bane of winter Cucumber growing. The resources of the plants require to be husbanded now so that they may have a store of strength for the dark days, not expended in producing an early sensational crop,

and consequently weakened when the strain upon them is at its maximum.

It is some time since I saw the soil used for Cucumbers so simple and so good—that is, so rough, as at Eastnor. In its roughness consists its chief excellence. It is simply turf, turf no doubt pared from good soil, yet simply turf and used just as it was dug in large squareunks. It is surprising how little of such soil is required to grow Cucumbers when it is rightly used. There overhead was a large trellis quite covered with shoots and foliage of the most satisfactory kind; below a narrow ridge of turves, the roots protruding through them in all directions asking for another thin casing of the same sustaining and enjoyable food. Periodical layers of turves, and liquid manure when the plants are heavily worked, are all the food required by Cucumbers. All they ask for is to have the turfy soil "little and often," and rough.

In the next house, a succession house, the plants were in very large pots and the growth had nearly covered the trellis. In these pots they will remain, and their rooting medium will be rougher, far rougher, than even rough turves. What can it be, do you ask? Answer, bricks, yes bricks, or perhaps half bricks, for the Cucumbers are not particular so long as it is rough. The large pots are placed on a layer of "good stuff" over the hot-water pipes. By-and-by the roots will not only be encouraged to the surface of the pots, but over them. They will be enticed over them by rich rough food. Bricks and turves will then be packed round the pots. Water will be regularly poured in, and down the roots will go to the heat, moisture, and food below, gathering sustenance as they descend; their moist, warm, dark, rugged path, and liquid manure *ad lib.* will do the rest. That is what Cucumbers like—aerated food. What they do not like is a huge mass of close soil "given all at once and done with." They do not like alternations of heat and cold, dry draughts and cold fogs, nor especially to be heavily cropped when young. They may be young and willing, but the man is not wise who permits them to exhaust themselves to make a grand show during the early days of autumn and winter. Mr. Coleman at least does not allow them to do so, and the Eastnor plants before the winter is over will prove his practice correct.—J. WRIGHT.

COMPANY SHOWS.

UNDER the above heading you have published some remarks about which there may be some difference of opinion; indeed I know the subject alluded to is regarded differently by different people, and the remarks of an "OLD EXHIBITOR" on page 303 if they are acquiesced in by many are not by all. It was suggested in the letter referred to that special horticultural societies practically "sold themselves" to "companies" who had no real sympathy with horticulture, or any branch of it which they bought for the "time being and made the best of." That is rather strong language, not pleasant to many, yet I fear that it contains some truth.

The special societies of a horticultural nature now established are one and all calculated to do considerable good by advancing the culture of that particular flower or vegetable with which they are identified. The officers of such societies are generally disinterested men, who labour to advance their object and not to trade upon it. With the supporters of those societies the case is different. It is obvious that many of them have an "eye to business." What, then, can the few disinterested managers do in such a case? They are in a dilemma. Most of their supporters "mean business" on the one hand, and the managers of companies, such as the Aquarium, "mean business" on the other. It is their duty to attract custom, and they make liberal, even spirited, bids for popularity. The special societies of a horticultural nature must have money, and their supporters would not support them if their committees "threw such chances away" as the "companies" from time to time offered. That is the real difficulty.

By many this state of things is considered unsatisfactory, and they are brought face to face with another real difficulty when seeking a remedy. Not many special societies are strong enough to be really independent, and consequently they enter into alliances which are to a certain extent incongruous. They are induced to patronise a place of public entertainment, first because of the "consideration" offered, and secondly because there is the chance of a large number of visitors inspecting the show, some of which may perchance become specialists themselves and supporters of their new hobby.

It is very easy to over-estimate the influence of mere num-

bers, and to attach a greater importance to a "central position"—a position "in town," than such an advantage (?) is worth. In the first place the "crowds" do not flock to special shows of a horticultural nature. It has never yet been proclaimed from the house-tops that the National Rose Show at St. James's Hall was a "brilliant success"—not more successful, indeed, than the Rose Shows at "the Palaces." The Auricula Show at the Crystal Palace was well attended, perhaps better than any other special show of the year, but has it resulted in an accession of members to the Auricula Society? The Carnation Show at the Aquarium was worthy of far more of public patronage than it received, for although Roses were there also, visitors were scant; and the same may be said of the Potato Show; and this, in addition, may be said in regard to the Aquarium—and few impartial observers can deny it—that a horticultural show cannot be enjoyed there during the afternoon, the only time when many visitors can attend.

It appears to me as one interested in horticulture, yet having no particular connection with any one society—that is, having no bias towards one over the other either large or small, but desirous of seeing all prosper, that the first condition to secure in a horticultural society is a horticultural status. A mere "company" alliance will not secure this, because the chief objects and sympathies of the two are foreign in their nature. What will secure it and promote what so many are desirous of seeing—true horticultural progress? I prefer putting the matter in the form of questions. Would it not be desirable for special and purely horticultural societies to be regarded as branches of a central head having branch—subsidiary—shows in alliance with that head? If it is desirable, is it practicable. —HORTICULTURIST.

THE ROSE ELECTION.—No. 4.

VOTES IN ELECTION.

THE ROSES in the following returns are placed in the order of merit—namely, the first best twelve, the second best twelve, and the third best twenty-four varieties, except where otherwise expressed:—

Mr. T. BROWN, Gardener to A. J. Waterlow, Esq., Great Doods, Reigate.

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|----------------------------|-----------------------------|
| 1. Alfred Colomb | 7. Duke of Edinburgh |
| 2. Charles Lefebvre | 8. Etienne Levat |
| 3. La France | 9. Baronne de Rothschild |
| 4. Marquise de Castellane | 10. Louis Van Houtte |
| 5. Marie Baumann | 11. François Michelin |
| 6. Maréchal Niel | 12. Dr. Andry |
| 13. Camille Bernardin | 19. Abel Grand |
| 14. Comtesse d'Oxford | 20. Prince Camille de Rohan |
| 15. Victor Verdier | 21. Dupuy-Jamain |
| 16. Comtesse de Serenye | 22. Catherine Mermet |
| 17. Madame Victor Verdier | 23. Souvenir d'Elise Varden |
| 18. Edward Morren | 24. Souvenir d'un Ami |
| 25. Sénateur Vaisse | 27. Henri Ledechaux |
| 26. Ferdinand de Lesseps | 28. Horace Vernet |
| 27. Annie Laxton | 29. Marguerite de St. Amand |
| 28. Mdlle. Eugénie Verdier | 40. Reynolds Hole |
| 29. Maréchal Vaillant | 41. Beauty of Waltham |
| 30. Madame Thérèse Levat | 42. Annie Wood |
| 31. Jules Margottin | 43. Madame Lacharme |
| 32. John Hopper | 44. Devienne Lamy |
| 33. Auguste Rigotard | 45. Baron A. de Rothschild |
| 34. Cheshunt Hybrid | 46. Madame H. Jamain, H.P. |
| 35. Duc de Wellington | 47. Duchesse de Caylus |
| 36. Duc de Rohan | 48. Capitaine Christy |

Rev. E. N. POCHIN, Barkby Vicarage, Leicester.

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| 1. Maréchal Niel | 7. Marie Baumann |
| 2. Charles Lefebvre | 8. François Michelin |
| 3. Alfred Colomb | 9. Marquise de Castellane |
| 4. La France | 10. Comtesse d'Oxford |
| 5. Etienne Levat | 11. Dr. Andry |
| 6. Baronne de Rothschild | 12. Emilie Hausburg |
| 13. Horace Vernet | 19. Louis Van Houtte |
| 14. Duc de Wellington | 20. Duke of Edinburgh |
| 15. Marguerite de St. Amand | 21. Edward Morren |
| 16. Madame Victor Verdier | 22. Marie Cointet |
| 17. Victor Verdier | 23. Marie Finger |
| 18. John Hopper | 24. Dupuy-Jamain |
| 25. Mrs. Charles Wood | 27. Star of Waltham |
| 26. Mdlle. Marie Raby | 28. Ferdinand de Lesseps |
| 27. Auguste Rigotard | 29. Sénateur Vaisse |
| 28. Madame Hippolyte Jamain | 40. Catherine Mermet |
| 29. Madame Clemence Joigneaux | 41. Sir Garnet Wolseley |
| 30. Paul Neyron | 42. Comtesse de Serenye |
| 31. Centifolia | 43. Souvenir d'un Ami |
| 32. Belle Lyonnaise | 44. Duchesse de Caylus |
| 33. Lord Macaulay | 45. Fisher Holmes |
| 34. Xavier Olibo | 46. Devoniensis |
| 35. Abel Grand | 47. Comtesse de Chabrilant |
| 36. Duchesse de Vallombrosa | 48. Madame C. Crapelet |

Mr. R. W. BEACHEY, Fluders, Kingskerswell.

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| 1. Alfred Colomb | 7. Camille Bernardin |
| 2. Maréchal Niel | 8. Baronne de Rothschild |
| 3. Charles Lefebvre | 9. Ferdinand de Lesseps |
| 4. François Michelin | 10. Marguerite de St. Amand |
| 5. Marie Baumann | 11. Louis Van Houtte |
| 6. La France | 12. Devoniensis |
| 13. Etienne Levat | 19. John Hopper |
| 14. Duke of Edinburgh | 20. Catherine Mermet |
| 15. Princess Mary of Cambridge | 21. Madame Clemence Joigneaux |
| 16. Monsieur E. Y. Teas | 22. Dr. Andry |
| 17. Marie Finger | 23. Star of Waltham |
| 18. Marquise de Castellane | 24. Marie Van Houtte |
| 25. Dupuy-Jamain | 27. Comtesse d'Oxford |
| 26. Souvenir d'un Ami | 28. Comtesse de Serenye |
| 27. Duc de Wellington | 29. Mdlle. Marie Raby |
| 28. Souvenir d'Elise | 40. Prince Camille de Rohan |
| 29. Fisher Holmes | 41. Victor Verdier |
| 30. Antoine Ducher | 42. S. R. Hole |
| 31. Mdlle. Eugénie Verdier | 43. Richard Wallace |
| 32. Général Jacquemiot | 44. Madame Victor Verdier |
| 33. Centifolia Rosea | 45. Comtesse de Nadaillac |
| 34. Baron de Bonstetten | 46. Rubens |
| 35. Cheshunt Hybrid | 47. Le Havre |
| 36. Xavier Olibo | 48. Gloire de Dijon |

JOHN SCOTT, Esq., Warminster.

Best thirty-eight exhibition Roses not in order of merit.

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| 1. Maréchal Niel | 7. Baronne de Rothschild |
| 2. Alfred Colomb | 8. Duchesse de Vallombrosa |
| 3. Charles Lefebvre | 9. Duke of Edinburgh |
| 4. Catherine Mermet | 10. Etienne Levat |
| 5. Xavier Olibo | 11. François Michelin |
| 6. Marie Baumann | 12. Horace Vernet |
| 13. Niphotos | 19. Fisher Holmes |
| 14. Monsieur E. Y. Teas | 20. Jules Margottin |
| 15. Capitaine Christy | 21. Comtesse d'Oxford |
| 16. Ferdinand de Lesseps | 22. Marie Cointet |
| 17. La France | 23. Marquise de Castellane |
| 18. Dr. Andry | 24. Souvenir d'un Ami |
| 25. Annie Laxton | 27. Marquise de Mortemart |
| 26. Duc de Wellington | 28. Paul Neyron |
| 27. Edward Morren | 29. Prince Camille de Rohan |
| 28. Exposition de Brie | 40. Sénateur Vaisse |
| 29. La Rosière | 41. Sir Garnet Wolseley |
| 30. Louis Van Houtte | 42. Star of Waltham |
| 31. Marie Raby | 43. Victor Verdier |
| 32. Madame Nachury | 44. Devoniensis |
| 33. Madame C. Wood | 45. Madame Bravy |
| 34. Madame Clemence Joigneaux | 46. Souvenir d'Elise |
| 35. Madame Victor Verdier | 47. Triomphe de Reunnes |
| 36. Marquise de Gibot | 48. Mdlle. Eugénie Verdier |

"D., Deal."

- | | |
|-----------------------------|--------------------------------|
| 1. Charles Lefebvre | 7. La France |
| 2. Maréchal Niel | 8. Alfred Colomb |
| 3. Duke of Edinburgh | 9. Louis Van Houtte |
| 4. Marie Baumann | 10. Madame Lacharme |
| 5. Baronne de Rothschild | 11. Cloth of Gold |
| 6. François Michelin | 12. Marie Van Houtte |
| 13. John Hopper | 19. Comtesse de Serenye |
| 14. Jules Margottin | 20. Etienne Levat |
| 15. Marquise de Castellane | 21. Mdlle. Marie Finger |
| 16. Madame Victor Verdier | 22. Mdlle. Marie Raby |
| 17. Catherine Mermet | 23. Prince Camille de Rohan |
| 18. Pierre Notting | 24. Comtesse d'Oxford |
| 25. Mdlle. Eugénie Verdier | 37. Emilie Hausburg |
| 26. Xavier Olibo | 38. La Havre |
| 27. Mdlle. Marie Cointet | 39. Edward Morren |
| 28. Dupuy-Jamain | 40. Felix Genero |
| 29. Etienne Dupuy | 41. Victor Verdier |
| 30. Madame Georges Schwartz | 42. Niphotos |
| 31. Baron Bonstetten | 43. Princess Mary of Cambridge |
| 32. Monsieur E. Y. Teas | 44. Perle des Jardins |
| 33. Sir Garnet Wolseley | 45. Star of Waltham |
| 34. Comtesse de Caubrilant | 46. Thomas Mills |
| 35. Ferdinand de Lesseps | 47. Madame C. Wood |
| 36. Marguerite de St. Amand | 48. Belle Lyonnaise |

Mr. J. MAYO, Corn Market Street, Oxford.

Best forty-eight exhibition Roses not placed in order of merit.

- | | |
|-----------------------------|-----------------------------|
| 1. Alfred Colomb | 7. Madame Victor Verdier |
| 2. Charles Lefebvre | 8. François Michelin |
| 3. Baronne de Rothschild | 9. Maréchal Niel |
| 4. Comtesse de Serenye | 10. Marie Baumann |
| 5. Devienne Lamy | 11. Sénateur Vaisse |
| 6. Etienne Levat | 12. Hippolyte Jamain |
| 13. Dr. Andry | 19. Louis Van Houtte |
| 14. John Hopper | 20. Comtesse d'Oxford |
| 15. Madame Hippolyte Jamain | 21. La France |
| 16. Eugénie Verdier | 22. Marquise de Castellane |
| 17. Mdlle. Marie Raby | 23. Duke of Wellington |
| 18. Sir Garnet Wolseley | 24. Marie Van Houtte |
| 25. Annie Wood | 33. Marie Cointet |
| 26. Beauty of Waltham | 34. Marquise de Mortemart |
| 27. Camille Bernardin | 35. Baron Gonella |
| 28. Duke of Edinburgh | 36. Star of Waltham |
| 29. Ferdinand de Lesseps | 37. Prince Camille de Rohan |
| 30. Horace Vernet | 38. Royal Standard |
| 31. Le Havre | 39. Madame Georges Schwartz |
| 32. Madame Charles Wood | 40. Baron A. de Rothschild |

41. Reynolds Hole
42. Princess Beatrice
43. Pierre Notting
44. Edward Morren

45. Madame Lacharme
46. Maurice Bernardin
47. Emilie Hausburg
48. Anna Olivier

"A COUNTY DUBLIN AMATEUR."

Best forty-eight exhibition Roses.

- | | |
|--------------------------------|----------------------------|
| 1. La France | 7. Alfred Colomb |
| 2. François Michelon | 8. Dr. Andry |
| 3. Baronne de Rothschild | 9. Madame Victor Verdier |
| 4. Duke of Edinburgh | 10. Maréchal Niel |
| 5. Charles Lefebvre | 11. Mdlle. Eugénie Verdier |
| 6. Marie Baumann | 12. Catherine Mermet |
| 13. Marquise de Castellane | 19. Louis Van Houtte |
| 14. Etienne Levét | 20. Sir Garnet Wolseley |
| 15. Marquise de Mortemart | 21. Dupuy-Jamain |
| 16. Duc de Rohan | 22. Victor Verdier |
| 17. Beauty of Waltham | 23. Annie Laxton |
| 18. Marguerite de St. Amand | 24. Camille Bernardin |
| 25. John Hopper | 27. Xavier Olibo |
| 26. Président Willermoz | 28. John S. Mill |
| 27. Cheshunt Hybrid | 29. Richard Wallace |
| 28. Thomas Mills | 40. Princess Beatrice |
| 29. Sénateur Vaisse | 41. Souvenir d'un Ami |
| 30. Mlle. Marie Raby | 42. Centifolia Rosea |
| 31. Maréchal Vaillant | 43. Madame Charles Wood |
| 32. Comtesse d'Oxford | 44. Rubens |
| 33. Madame H. Jamain | 45. Madame Lacharme |
| 34. Mons. E. Y. Teas | 46. Lælia |
| 35. Ferdinand de Lesseps | 47. Abel Grand |
| 36. Princess Mary of Cambridge | 48. Madame Willermoz |

Mr. JOSEPH HINTON, Warminster.

Best forty-eight exhibition Roses in order of merit.

- | | |
|----------------------------|-----------------------------|
| 1. Maréchal Niel | 7. Charles Lefebvre |
| 2. Marie Baumann | 8. Pierre Notting |
| 3. Catherine Mermet | 9. Alfred Colomb |
| 4. François Michelon | 10. Triomphe de Rennes |
| 5. La France | 11. Souvenir d'un Ami |
| 6. Baronne de Rothschild | 12. Baron de Bonstetten |
| 13. Emilie Hausburg | 19. Etienne Levét |
| 14. Dr. Andry | 20. Comtesse d'Oxford |
| 15. Marie Finger | 21. Marquise de Mortemart |
| 16. Marquise de Castellane | 22. Horace Vernet |
| 17. Camille Bernardin | 23. Devoniensis |
| 18. Marie Raby | 24. Mons. E. Y. Teas |
| 25. Duke of Edinburgh | 27. Gloire de Dijon |
| 26. John Hopper | 28. Edward Morren |
| 27. Duchesse de Caylus | 39. Madame Lacharme |
| 28. Ferdinand de Lesseps | 40. Mdlle. Eugénie Verdier |
| 29. Général Jacqueminot | 41. Marguerite de St. Amand |
| 30. Duke of Wellington | 42. Lord Macaulay |
| 31. Madame Victor Verdier | 43. Marie Cointet |
| 32. Beauty of Waltham | 44. Président Willermoz |
| 33. Dupuy-Jamain | 45. Xavier Olibo |
| 34. Devienne Lamy | 46. Prince de Portia |
| 35. Louis Van Houtte | 47. Victor Verdier |
| 36. Madame Bravy | 48. Centifolia Rosea |

Rev. C. H. BULMER, Credenhill Rectory, Hereford.

Best forty-eight exhibition Roses.

- | | |
|------------------------------|-----------------------------|
| 1. Alfred Colomb | 22. Madame Victor Verdier |
| 2. Charles Lefebvre | 23. Edward Morren |
| 3. La France | 24. Duke of Wellington |
| 4. Etienne Levét | 25. Monsieur Noman |
| 5. Baronne de Rothschild | 26. Horace Vernet |
| 6. Marie Baumann | 27. Capitaine Christy |
| 7. Marquise de Castellane | 28. Elie Morel |
| a 8. Mdlle. Eugénie Verdier | 29. Sénateur Vaisse |
| 9. Marie Finger | 30. Beauty of Waltham |
| 10. Louis Van Houtte | 31. Marquise de Gibot |
| 11. François Michelon | 32. Reynolds Hole |
| 12. Comtesse d'Oxford | 33. Annie Laxton |
| 13. Maréchal Niel | 34. John Hopper |
| 14. Marie Raby | b 35. Madame Furtado |
| 15. Dr. Andry | 36. La Rosière |
| 16. Emilie Hausburg | 37. Jules Margottin |
| a 17. Abel Grand | 38. Général Jacqueminot |
| 18. Marguerite de St. Amand | 39. Monsieur E. Y. Teas |
| (Princess Mary of Cambridge) | 40. E. Stuart Mill |
| 19. Xavier Olibo | 41. Madame Thérèse Levét |
| 20. Star of Waltham | 42. Madame Hippolyte Jamain |
| (Exposition de Brie) | 43. Thomas Mills |
| Ferdinand de Lesseps | 44. Madame Charles Wood |
| c 20. Maurice Bernardin | 45. Mdlle. Annie Wood |
| (Sir Garnet Wolseley) | 46. Duchesse de Morny |
| 21. Duke of Edinburgh | 47. Marie Van Houtte |
| | 48. Catherine Mermet |

a These varieties are bracketed only for the purposes of an election, not for the Rose catalogue or exhibition box.

b This variety (35) holds its place from the good qualities of colour, form, freshness, and perfume, also beauty of foliage and certainty on the maiden Manetti, in elector's county early boxes being rarely without it.

N.B.—Dark Roses of the Boncenne school have been purposely excluded, as seldom exhibited through opening badly or burning, though admittedly indispensable when in form.

I have been particular in closing the lists of the amateurs with that of the Rev. C. H. Bulmer's, because the list and the note attached thereto, coupled with his request that it may be printed as sent, opens up a question mooted by "WILD

SAVAGE" and myself in the earlier days of this election. Finding it met with opposition, and now acknowledging that from my natural infirmity of "thickness in the clear" I did not exactly express what I meant, I withdrew the proposition, fearing it might, if misunderstood, imperil the genuine character of the election. Several electors have touched upon the topic, some merely naming one or other of these Roses, pointedly saying the vote was to be given to the named Rose, not the other; others, like my friend Mr. Beachey, enlarging on the reasons for preference of one over another, but Mr. Bulmer's list and his request bring the matter rather to a crisis. Let me state how I did act as regards these votes in Mr. Bulmer's list. In every case of similar bracketed Roses I gave the vote, for it is plain there is only one vote to be given in each case to the Rose already standing highest on the list. It so happened that Mr. Bulmer's list was nearly the last received, and so the matter was easy.

Of course all of us think very highly of our own ideas—as Sam Slick would say, "tis human natur;" but it seems to me it would be wise to settle this little point, and argue out the *pros* and *cons*. I believe that in this present election we have not, for this very reason, arrived at the correct position of these similar Roses. Granted that they can often be distinguished "one from t'other and t'other from which," yet it must also be confessed that often, more often, "Cæsar and Pompey are so very much alike, especially Pompey," that identification utterly fails as far as the bloom alone is concerned, certainly to the ordinary Rose-grower, and even, I fancy, occasionally to the very best judge. Why, then, should not, for the purposes of election, this matter be allowed? Precedent is not wanting, as in the case of Lælia and Louise Peyronny.

I cannot resist giving my opinion, based on the numerous returns I have now for some years waded through, that these similar Roses scarcely attain their right position; for instance, Marie Finger and Eugénie Verdier. I can understand a person saying, "I cannot put two Roses so similar in my forty-eight. I choose Marie Finger, it comes best;" but another reasons exactly in the same way as regards Eugénie Verdier. Here, then, are two similar Roses that receive only one vote each, whilst these same electors each vote for some dozen Roses, like Marie Baumann and Maréchal Niel, which thus score two votes. Let this be repeated only three or four times amongst forty electors, and the result will very materially modify the position they would otherwise attain.

Let me now state briefly how I think the difficulty may be met. Confession is said to be good for the soul, and I confess I erred in saying at the onset all votes for either of these similar Roses would be given to a named one; it was, in fact, taking my opinion of the merits as the correct one, and I properly received castigation for the same. I propose, therefore, that for purposes of election Lælia and Louise Peyronny; Alba Rosea and Madame Bravy; Marie Finger and Eugénie Verdier; Ferdinand de Lesseps, Maurice Bernardin, and Exposition de Brie; Baron Prevost and Colonel de Rougemont; &c.—one Rose, and that whichever the elector prefer—should be named, then the returning officer might publish his list thus:—

18	$\left\{ \begin{array}{l} \text{Eugénie Verdier} \\ 6-6-10=22 \\ \text{Marie Finger} \\ 4-4-7=15 \end{array} \right\}$	10-10-17=37	$\left\{ \begin{array}{l} \text{These figures denoting the} \\ \text{votes in both twelves and} \\ \text{the next twenty-four.} \end{array} \right\}$
24	$\left\{ \begin{array}{l} \text{Ferdinand de Lesseps} \\ 3-3-7=13 \\ \text{Maurice Bernardin} \\ 2-4-5=11 \\ \text{Exposition de Brie} \\ 2-1-4=7 \end{array} \right\}$	7-8-16=31	

Such a plan would not only show us the most generally useful of the similar Roses, and thus be a guide to those able only to have a limited number of varieties, but by the collective vote these similar Roses would all stand higher. Such arrangement would further admit into the charmed circle of the forty-eight some Roses that, as the Rev. C. H. Bulmer says, we desire to see there; for when it comes to the last few votes, how difficult it is to balance the respective merits, and how many favourites are left out in the cold—with regret, deep regret. Mr. Beachey writes, "Many of the newer Roses are so good that they cannot be omitted, and yet for old acquaintance' sake, if for nothing else, how can one have the heart to give the cold shoulder to such dear old valued and faithful friends as Sénateur Vaisse, Pierre Notting, Gloire de Dijon (I must just slip in the last-named before the door is closed), Abel Grand, Lælia, Madame Bravy, and such like?" Other

electors, like the Rev. C. P. Peach, go even further, for he adds to his list of forty-eight Roses the names of fifty-three other varieties, headed "Regret to have to omit the following." Our "Peach" is far more tender-hearted in the kernel than the fruit.—JOSEPH HINTON, *Warminster*.

P.S.—Roughly looking at this point, I think I may say that had this election been thus carried out the Marie-Finger-Eugénie-Verdier Rose must have polled at least forty-two votes, and the Ferdinand de Lesseps, Exposition de Brie, Maurice Bernardin type would have mustered forty. The former must have forced her way into the first dozen (a very welcome addition in colour), and the latter would have made a plucky effort to follow her.—J. H.

NOTES RELATIVE TO THE POTATO.

MR. ADDISON seems to think (page 225) that the disease is brought on by deterioration in the sets and careless treatment of the same rather than an atmospheric cause. I believe the truth of the matter has been well elucidated by your able correspondent "A NORTHERN GARDENER," and I add my testimony to his. I do not know what the people of England think, but I know that in Ireland we have been taught by experience to look entirely to the season and the state of the atmosphere. The most casual observer here can and does prophesy about our crop. They draw their conclusions from the season. If the sets are planted about March or early in April, and May and June set in showery, it does very well; but on the other hand, if July, August, and September are wet, it is the universal cry, "The Potatoes are in danger." This is quite true. Last season we had an example of it; from July till about the middle of September was pretty dry, but about the latter period wet set in. The Potatoes were in full growth, or at least were quite green, with no bad tubers. A fortnight afterwards we had lots of diseased tubers, caused, we believe, by the change of weather.

It has been said by some writer that the Potato disease is contagious, and that it is an error to plant for years consecutively in the same piece of ground. This is a theory which I think will not stand in the light of experience. I know plots that cottagers have been growing Potatoes in (and nothing else) for this last twenty years, and year for year there is no difference in them from those grown in the best rotation-of-crop system. Most observers have noticed that there are varieties which are more subject to disease than others, and also that it depends on the constitution of the variety, as we find all sorts having soft delicate haulms are more prone to disease than those having strong haulms of upright growth. It is, I believe, a fact almost generally admitted that it is the haulm that conveys the disease to the tubers. This being granted, if there is no disease to carry there will be none at the root; but if there is, the haulm that can best resist it will have the most sound tubers. The potency of this theory I have seen in the Skerry, the stalks of which do resist the disease long after all others are cut down, and this year, notwithstanding that all other Potatoes are much affected, this variety is almost all sound. I know it to be a Potato requiring much inorganic matter to bring it to perfection. In a lot of about thirty varieties of seedlings that we had planted in a field I observed that all haulms of a soft flimsy nature were cut down with disease about August; the tubers were very bad. The haulms of others remained fresh and firm till we were taking them up (10th of October), and the tubers were fresh and almost free from disease.

I endorse the most of what Mr. Addison says about disbud-ding seed Potatoes several times before planting. It is a terrible error in management. No doubt it deprives the sets of some of their vitality, but how it can affect or assist a malady purely atmospheric it beats me to know. I say atmospheric, as I have seen what attacks the tops of the Potatoes on several plants, especially this season, when it came on so early, while all foliage was tender. I examined the leaves of Beans, Beech, and Lilac, and to all appearance it was identical. In this matter I do not stand alone, as my employer tells me it was perceptible on many trees and shrubs in the years of 1845 and 1846.

In conclusion let me say that as the Potato is so valuable as a culinary root, it by all means ought to be grown for its quality and not for its quantity. It is to be seen in far too many cases planted too thickly, so that when about half grown they are growing into and weakening each other. I believe if we were to grow none but those having stout haulms, and plant them in soil mostly inorganic such distances from

each other that they could be seen individually all through their growth, we should have less of disease. This, I know, would be a step in the right direction. Experience teaches me Potatoes ought to have an inorganic soil, as the quality of those grown on an organic soil is never so good; besides, I know the disease always attacks them on boggy soils first. I believe the disease travels in the dense fogs that visit us through the months of July, August, and September. These fogs and aqueous organic soils have a great affinity for each other, and therefore the disease settles here first.—B. G., *Co. Down*.

THE LATE MR. RIVERS.

(Continued from page 228.)

In our last we gave a sketch of the life and works of Mr. Rivers in their general relation to horticulture. We will now consider what he has done in that branch with which his name is likely to be most enduring, and in the interests of which he did more than any other person in modern times. When Mr. Rivers first turned his attention seriously to fruit culture our orcharding and fruit-tree management were at the lowest possible ebb. The orchards of Kent which had for centuries furnished the supplies of fruit to the great metropolis had become gnarled, cankered, and unproductive. The removal of the protective duty on imported fruit discouraged the Kentish farmers; many of them grubbed the orchards they had, and those who had them not refused to plant. In this condition did the fruit-producing districts for many years remain; the old cankered orchards became older and more cankered, and no attempt was made to supply the deficiency that was yearly becoming greater. No more short-sighted policy could have been followed by the English orchardists, for by their action they merely opened a wider door to the foreign grower. With a soil and climate adapted for fruit-growing to supply our every want, we were about to be handed over to the foreign producer for the supplies which we could easily have of far better quality at home. Mr. Rivers saw the course that was inevitable, and he set himself to arrest it. He was strongly imbued with a patriotic feeling, and though sufficiently cosmopolitan he never forgot that there was nothing that any other nation could do that was not equally within the power and grasp of the Anglo-Saxon race in similar circumstances. This was a feature in his character which we often remarked, and one of the phases of it was that he never would be outdone or allow that an Englishman could be outdone by any other nationality. He used often to remark, "Why should we import fruit from abroad when we have the soil and climate to grow it here in England?" He was always impatient of the old Kentish orchardists, as he was of all laggards and dullards. He was a man of action and great foresight, and knowing that this state of affairs could not long continue he set himself to inaugurate a better way, and he lived to admire the modern orcharding of Kent.

Mr. Rivers was not a mere talker and writer, for he acted both what he talked and wrote. While he was instructing the fruit-growers of the country by his writings, he was at the same time showing them an example and instructing them by what he did. It is now many years since he planted hundreds of Louise Bonne of Jersey Pears and Early Rivers Plum as pyramids, to show what could be done on a small space of ground with trees of small size properly managed. These trees are in existence still and continue to produce abundant crops. The practice which he followed in the nurseries at Sawbridgeworth was, perhaps, of greater value than his voluminous writings, for these facts could be studied, and those who could not realise what they read by description could see the real thing before their eyes.

It was mainly in Worcestershire, in the Vale of Evesham, and in some of the market gardens round London, that the system which Mr. Rivers advocated was first practised; and the success that attended it being universally acknowledged, the Kentish orchardists seeing the advantages of the new system soon adopted it, and now in that favoured county may be seen hundreds of acres of fruit trees grown on the pyramid fashion, while perhaps a still greater extent is being planted with standard trees of superior sorts both in quality and fertility. That which aided Mr. Rivers in this description of orcharding was the use of the dwarfing stocks—the Quince for the Pears, and the Paradise for Apples. He was the first to urge an extensive use of the Quince stock, and for years he had to battle against much opposition before he could convince

the public of its importance. It had for many years been used in France, and a few were grown in English nurseries, more to indulge a fancy than anything else; but its use on a large scale was due to the unabated advocacy of Mr. Rivers, and he succeeded at last in convincing the British gardener that to grow garden fruit properly and to economise space the use of the dwarfing stocks with root-pruning were necessary.

For Apples he, like others, used the French Paradise stock and the Doucin till he found that neither was so well adapted for the purpose as could be desired. The former was a weak and delicate plant not adapted for this climate, and being fortunate in finding a number of trees among some seedling Apples which retained a dwarf habit and the peculiarity of throwing out an abundance of small roots near the surface of the ground, his ready eye detected them, and they were selected for experiments in dwarfing. One or two were chosen as being the best, and at last Mr. Rivers found that every qualification being supplied by the variety called the Nonesuch, this has now become the only dwarfing stock for Apples used in the Sawbridgeworth Nurseries. Of its excellence for dwarfing and inducing fertility we can amply testify from long experience.

It was at an early period in life that Mr. Rivers began to raise seedling fruit trees. As we have already stated in our former notice published last week his father resigned to him the whole interest in the Sawbridgeworth Nurseries in 1827, and shortly afterwards in 1834 he succeeded in obtaining two seedling Plums, which were respectively known at that time as Rivers' No. 1 and Rivers' No. 2. These were raised from the *Precoce de Tours*, an old early variety; and they were both so much earlier, more hardy, and greatly more prolific than their parent, that Mr. Rivers showed his appreciation of them by making a plantation of fruiting trees, which have amply justified his judgment and foresight by the remunerative returns they have made. No. 1 ultimately became known as *Early Favourite* and No. 2 as *Early Prolific*, the latter being now better known as *Early Rivers*; and if Mr. Rivers had done nothing else to keep him in remembrance the introduction of this valuable Plum would have been sufficient to have done so.

Shortly after he started growing fruit trees in pots the Stanwick Nectarine, raised by Lord Prudhoe at Stanwick in Northumberland, was placed in his hands for propagation and distribution. The plants were all reared in pots, and on the 25th of May, 1850, the stock, consisting of twenty-four plants, was sold by auction for £164 17s., which amount was handed over to the funds of the Gardeners' Royal Benevolent Institution. The introduction of the Stanwick Nectarine and the discovery of the orchard house combined to lay the foundation of Mr. Rivers' success as a raiser of new fruits. Without either it is very probable that the many new Peaches and Nectarines which have added so many delights to our gardens would never have existed. The Stanwick gave a new character to the fruit, and the orchard house enabled him to grow and to fruit the trees in a space of time shorter than had ever been accomplished before, and with a security which induced him to proceed in the work, and this he certainly did with untiring energy.

At this period the Horticultural Society of London was not in a very flourishing condition; its efforts for the time seemed paralysed, and there was no authority to which a raiser of new fruits could submit his seedlings to ascertain their merits or to receive a commendation. In 1853 the idea of a Pomological Society was first suggested in the pages of this Journal. The need for such a thing was evident from the favour by which it was received, and accordingly on the 10th of July, 1854, the British Pomological Society was instituted at a meeting held at the house of the Horticultural Society in Regent Street, the chair being occupied by Mr. Rivers; and Mr. Spencer of Bowood and Dr. Robert Hogg being respectively Treasurer and Secretary, and the promoters of the movement. The impetus that was given to fruit culture by the establishment of this Society was very marked, and so useful had it become as a promoter of this branch of horticulture that the Horticultural Society of London a few years afterwards invited the members to amalgamate with that Society, and it ultimately became the Fruit Committee of the Royal Horticultural Society, which still continues to do the work which the original Society was instituted for.

It was at one of the meetings of the Pomological Society that Mr. Rivers exhibited his first seedling, obtained by crossing the old varieties of Nectarines with the Stanwick. He early discovered the faults of the Stanwick, and that it would never be a useful fruit for the outdoor climate of these kingdoms. Its

flavour he knew was exquisite, but its liability to crack, and requiring more heat to ripen it than can be obtained from a cool house or an open wall, were defects he endeavoured to obviate by crossing it with some of the hardier varieties. This he succeeded in doing, and accordingly on the 6th of August, 1857, he exhibited at the meeting of the British Pomological Society two seedling Nectarines from the Stanwick, being only seven years from the time when the plant was first distributed. One of these appeared for several years in his fruit catalogue as Stanwick Seedling No. 3. On the 5th of August, 1858, he exhibited for the first time a seedling Peach, which was subsequently named Rivers' Early York, by which this excellent Peach has now become widely known. On the 9th of September, 1858, he exhibited a seedling Nectarine raised from a Peach stone, and which is now so well known as Prince of Wales. In 1859 he raised Rivers' Orange Nectarine from Pitmaston Orange, and in 1861 were announced Pine Apple and Victoria Nectarines, and Early Albert and Early Victoria Peaches. The Nectarine Peach raised from the stone of a Nectarine appeared in 1862. In 1865 there was a strong addition to what would to many have appeared sufficient, and these were Peaches which have now established their reputation—Alexandra Noblesse, Dagmar, Dr. Hogg, Early Alfred, and Lord Palmerston. The year 1867 brought a measure of good fortune as compared with which all that had been done before sank into comparative insignificance. This was the raising of *Early Beatrice*, *Early Louise*, and *Early Rivers* Peaches. These by their wonderful earliness have added nearly a month to the duration of the season of Peaches. That grand Nectarine Lord Napier, which was raised from a stone of *Early Albert* Peach, first appeared in 1870. But space will not allow us to record all Mr. Rivers' achievements in fruit-raising; suffice it to say that in this way he has accomplished far more in the short space of time between 1854 and 1874 than can be attributed to any other worker in the same field, and with results that will be lasting.

Whatever tended to add to the pleasure of the people by extending the culture of fruits by modes that were simple and inexpensive, was sure to meet with Mr. Rivers' support. Cheap glass erections, whether they were mere shades over enclosures of Beech hedges, glazed wooden structures with roofing-felt for walls and heated by a brick Arnott stove which he himself contrived, or a sand-pit planted with Vines and covered with a simple glass roof—these were so many ways by which he showed practically that fruit culture was simple, inexpensive and remunerative, producing good returns with a large amount of pleasure. Another of these contrivances, though it did not originate with, was introduced and eagerly fostered by him. This was the ground vinery, which when carried out properly is one of the most valuable adjuncts to a large or small garden. As we have frequently seen it producing most handsome bunches of Black Hamburgh and other Grapes, we are confirmed in our opinion that it is a great boon to the owner of a small garden who either has no glass houses, or who may be afraid to build them as fixtures to a freehold which is not his own.

To recount all the labours of Mr. Rivers would fill a book. We will conclude by giving a list of the fruits that were raised by him as recently published in the pages of a contemporary.

Peaches.—Albatross, Alexandra Noblesse, Comet, Condor, Crimson Galande, Dagmar, Dr. Hogg, Early Albert, Early Alfred, Early Beatrice, Early Louise, Early Leopold, Early Rivers, Early Silver, Falcon, Gladstone, Golden Eagle, Goshawk, Lady Palmerston, Large Early Mignonne, Lord Palmerston, Magdala, Merlin, Nectarine, Osprey, Prince of Wales, Princess of Wales, Radclyffe, Rivers' Early York, Sea Eagle, Stanwick Early York.

Nectarines.—Advance, Albert, Albert Victor, Byron, Dante, Darwin, Downton Improved, Humboldt, Lord Napier, Pine Apple, Prince of Wales, Rivers' Elruge, Rivers' Orange, Rivers' White, Stanwick Elruge, Victoria.

Plums.—Autumn Compôte, Blue Prolific, Czar, Early Favourite, Early Rivers, Early Transparent Gage, Grand Duke, Late Rivers, Late Prolific, Rivers' Early Apricot, Rivers' Early Damson, Sultan.

Pears.—Beacon, Fertility, Princess, Seedling Bergamot, St. Swithen, Summer Beurré d'Arenberg.

Apricot.—New Large Early.

Cherry.—Early Rivers.

Raspberry.—Autumn Black.

Strawberries.—Royal Hautbois, Seedling Eliza.

And thus have ended the labours of one who did much to make life happy, and so add in no small degree to the in-

dustrial wealth of the country, by encouraging, like John Evelyn, the planting of fruit trees.

NOTES AND GLEANINGS.

We are informed by Mr. Killick that the APPLE ELECTION will appear in the next number of the Journal.

— THAT pretty and curious shrub *COLETTIA HORRIDA* is now in full bloom in the garden of Mr. Harrison Weir, where it is perfectly hardy, and flourishes without the least protection. The situation is an elevated one near Brenchley in Kent, and here many other plants stand out of doors that require protection in some parts of the country.

— We have rarely seen Mrs. PINCE'S MUSCAT GRAPE grown better than it is in a house entirely devoted to its culture by Mr. Harrison Weir of Weirleigh near Brenchley. The bunches are very large and well set, and the colour and bloom are perfect. Where Mr. Weir considers his success rests is that the house is lofty, the rafters long, so that the Vines have scope for producing an abundance of healthy foliage, and an abundance of air is constantly admitted, but always from the side away from the wind. This is managed by having a large space to open at each end of the house as well as on the roof, and air is never admitted except on the lee side.

— THE REV. W. F. RADCLIFFE states that *DÉSIRÉ CORNELIS* PEAR was raised by Van Mons, but it did not fruit till five years after his death. It is in shape like *Beurré Diel*, and of the flavour of *Marie Louise*. It ripens about the same time as Williams's *Bon Chrétien*—about the end of August.

— We learn from the *Dundee Advertiser* that the annual general meeting of the members of the DUNDEE HORTICULTURAL SOCIETY was held on the 26th ult., about 150 gentlemen being present. The Treasurer (Mr. James Hardie) read a statement showing the condition of the Society financially. He stated that the income from members' subscription, entrance money, &c., was above that of any ordinary previous year, while the ordinary expenses had been less. Owing to the liberality with which prize money had been distributed there was a deficit of £70 on the year's transactions, but they had still £414 13s. 9d. at their credit. In the year 1865 the Society only paid £58 as prizes, and since then it had gradually risen, and now stood at £342. Of the entire income of the Society since its commencement (£6518 18s. 6d.) there has been given in prizes £3300. The income of the past year, including balance, had been £1056 18s. 7d., and the expenditure £642 4s. 10d., showing a favourable balance of £414 13s. 9d. Previous to the election of office-bearer for the year Mr. Thyne moved—"That no partner or employé of any seed or nursery firm be eligible for election as an office-bearer," which, after discussion, was rejected by a large majority.

— THE CHRYSANTHEMUM SEASON is approaching, and good displays of this flower are anticipated in the metropolitan district. The plants at the Inner Temple never looked more promising than this year, and the collections at the Crystal Palace and Victoria Park are extensive and excellent. The collection at the Temple will be in beauty from the 1st of November, but some varieties are several days later this year than they were last. The Stoke Newington Society appears to be divided, for their exhibition is advertised to take place in two separate places—at Stoke Newington on the 16th inst. and at the Westminster Aquarium on the 20th. Brixton and Gravesend Shows open on the 14th, Walton on the 15th, Ealing on the 17th (it having been postponed from the 10th), and Kingston and Dartford on the 21st of the present month.

— "A WELSH READER" informs us that one of the most extensive FLOODS within memory has occurred this week in South Wales. Cardiff Castle, the seat of the Marquis of Bute (lately figured in the Journal), was nearly surrounded with water, and the grounds covered to the depth of 3 feet.

— AT their annual ROOT SHOW to be held at the Agricultural Hall, Islington, on November 14th and 15th, Messrs. James Carter & Co. offer good prizes for farm roots, also for vegetables and Potatoes. Messrs. Sutton & Sons, as usual, offer liberal prizes at their Root Show on November 24th, and they amount to nearly £500. Many manure manufacturers also offer prizes at the same Show.

— AN AMATEUR writes to us on the CULTIVATION OF HYACINTHS, that he last year received a collection of bulbs from Messrs. Veitch, some of which were so fine that he purchased

for them some extra large pots. In due time he had a very fine display, but—and this is the point to which he directs attention—he considers that he wasted his money in purchasing the large pots, for the spikes from bulbs grown in 48's (5-inch pots) were quite equal to those produced by 6 and 7-inch pots. He had excellent spikes from bulbs grown in 4-inch pots, which size is often very convenient for decorative purposes. With rich light soil and careful watering, using clear soft water as a stimulant when the spikes are advancing, satisfactory results, our correspondent remarks, may be produced in Hyacinth culture by employing pots considerably below the orthodox size.

— ALTHOUGH there was a good attendance at the CLEVELAND HOUSE plant sale (Mr. Ralli's) on Tuesday last the prices obtained for the plants were not large—some, indeed, being small. *Nepenthes Rafflesiana*, a splendid plant with nearly sixty pitchers, realised 23, and *N. lanata* 14 guineas. Seedling *Crotons* Madame Ralli and Leggi, raised by Mr. Legg, were sold for £12 and £4 respectively. *Anthurium Scherzerianum* Leggi was secured for 10 guineas, and *A. S. Album* (Bull's variety) with ten crowns for 15 guineas. The specimen *Crotons* only realised comparatively small amounts, the fine plant of *Volutum* being bought for 4½ guineas. A good plant of *Lapageria alba* was sold for £9, and a fine specimen of *Cycas revoluta* for 10 guineas. The *Heaths* realised from £1 10s. to £5 10s. The total amount of the sale was £392. The principal buyers were Messrs. Bull, Davis, Humphreys, Jackson, Lee, Shuttleworth, Wills, Walker, Warren, Williams, and Wheeler. Mr. Warren bought the exhibition van for 55 guineas.

— ONE of the best examples of successful FRUIT CULTURE which we have this year seen is at Barham Court, Maidstone, (Mr. Roger Leigh's). The crops appear to have been good, judging at least by the appearance of the fruit-room, which contains a noteworthy collection of well-grown and highly-coloured specimens. The trees are principally grown as espaliers, cordons, and pyramids, and their condition affords evidence of Mr. Haycock's skill and care.

— A VERY satisfactory instance of LAPAGERIA CULTURE has come under our notice in the garden of R. Hudson, Esq., Clapham Common. The *Lapageria* in question is growing in a large pot, and is trained near the roof along the south front of a large span-roofed plant house. In such a position the light is often too intense for this fine climber, and it would probably be so in this instance but for the shade afforded by a shelf which is placed along the front of the house; and under the shelf—not above it—the *Lapageria* grows luxuriantly and flowers profusely. Thus the space, the under side of a shelf, which is usually unoccupied, is here turned to account in a most satisfactory manner. The plant is kept scrupulously clean and has the best attention in watering. The opposite of those conditions—namely, drought at the roots, too much sun, and insect ravages, too often impair the health and mar the beauty of this beautiful greenhouse climber. Mr. Rapley the gardener, who grows other plants well, is to be complimented on so well pointing out a position where, with suitable care, the *Lapageria* will flourish in other greenhouses where space has not hitherto been found for it. Mr. Hudson only requires to have the white variety, which is one of the most chastely beautiful of all greenhouse flowers, to render the front fringe in his house complete. The same garden contains what would please the readers of the other end of this Journal—excellent arrangements for poultry and Pigeons, which are among the best that have come under our notice, and which are worthy of being again referred to. A little of everything, and that little done well, appears to be the guiding principle in the compact and enjoyable garden referred to.

THE KING'S ACRE NURSERIES, HEREFORD.

VISITING a Rose nursery when there are no Roses, or only a mass of decaying blooms which the early frosts of winter have despoiled, and when the leaves are withering on the branches or have been driven therefrom by the violence of the equinoctial gales, may not be a favourable period for appreciating the beauty of the national flower arranged *en masse*, but it is at least opportune for affording an idea of the magnitude of the trade in the most popular of garden flowers. It was at such a period that I found myself at King's Acre, the celebrated nursery of Messrs. Cranston & Co., who not only rank amongst the foremost of British rosarians, but who are

the donors of the greatest prize ever provided for competition at Rose tournaments.

The King's Acre Nurseries are situated about two miles from Hereford. The walk—or drive—is a pleasant one without being picturesque, and the observant traveller has not to proceed far before he perceives that he is in a district peculiarly favourable to Rose growth. Not only in the villa gardens skirting the town and in the cottage allotments "further afield" do Roses grow vigorously, but the Briars in the hedgerows tell us by their luxuriance that they enjoy a good larder and a congenial air. The atmosphere of Herefordshire is undefiled by the smoke of "works," such as foundries and factories, and the soil is such that renders the cattle sleek. It is under such conditions that Roses flourish—in such a district where Mr. Cranston has won renown by the excellence of his produce of blooms in summer and plants in winter.

In extent the nursery is about eighty acres; thirty of which are devoted to the increase and culture of Roses. Conifers, forest trees, and evergreens are largely grown, occupying about thirty acres, and there are twenty acres of fruit trees. Healthy and well-grown Conifers are attractive at any season, but especially during the winter, and the Conifer avenues at King's Acre are worthy a passing meed of commendation. They reach the entire length of the nursery, the shrubs, &c., in the borders being arranged with care—small and medium-sized specimens in choice variety. Alternating with these are avenues of Roses, which during the summer season must have an imposing effect. At the extreme end of the nursery is a boundary of specimen Conifers of commanding size and well-balanced proportions. The examples of these—Wellingtonias, Pinuses, Abies, Thujas, Cupressuses, &c.—are really excellent.

But it is the Roses, unattractive though they be, that primarily arrest attention. In no other place than in a Rose manufactory such as this can the extent of the Rose industry be appreciated. Thousands of Roses, even acres, are here seen. These are imposing—almost surprising; but more wonderful still is it to think that this is only one item in the great Rose trade of the country. We must think also of the Pauls, Turner, Cant, Veitch, Smith, Wood, and others who provide similarly powerful contingents, some of them perhaps even more powerful, to the national army of Roses in order to fully comprehend the full magnitude of the Rose trade in this country.

That Messrs. Cranston & Co.'s is an important Rose rendezvous must be admitted by all who inspect King's Acre, and especially, perhaps, if the visit occurs in the lifting and packing period. The quarters are then bloomless and almost leafless; but the character of the plants is better seen on that account—the sturdy bright wood, and, what is to the practised eye so attractive, the upturned bristling roots bushy and "close at home."

A striking feature of the nursery is a bed of 50,000 standards which have been budded during the present season. A path is arranged down the centre of this "plantation," to which the ground slopes; the Briars have also been assorted and planted systematically, the tallest at the extremities of the rows furthest from the eye graduating to the dwarfest at the ends next the central walk. During the blooming period next year these gigantic sloping banks of Roses will have a grand effect. This is only a portion of the stock of standards. The stock of Manettis budded during the present year is still larger and amounts to 200,000 plants. These are remarkably healthy, and have been budded very low. In order that the buds could be inserted quite close to the roots the soil had been dug out, and the budded Manettis are now in trenches. When growth commences in the spring the trenches will be filled-in and roots will issue from the bud, and thus aid the parent stock in furnishing support for the plants. But this is not all; for Roses thus worked seldom if ever produce suckers; and, moreover, Mr. Cranston places it beyond the power of planters to err in exposing any portion of the Manetti stock above ground—an important provision. The Manetti should always be covered to insure success, and with plants worked so low as these are it must be covered, for they simply cannot be planted without covering the junction of the bud and the stock.

The stock of Manettis now ready for distribution amounts to 150,000 plants. But many—some hundreds, probably thousands—have already been dispatched, as was evident by the large blanks in the quarters, and similarly by the loads of bundles and packages awaiting their turn for delivery. Roses were being packed not only for British gardens, but cases were being prepared for the Continent, especially Italy, for America, Ceylon, and even New Zealand and Australia. For

the long voyage of three months the plants are specially prepared. They are chiefly small plants of the newer varieties. The roots of each are firmly "mossed," and about 150 plants are placed in each case, and nearly all are found to reach their destination safely. The foreign trade in Roses is evidently a great one, and it is no slight compliment to English packers that are able to secure the safe transit of Roses even to the Antipodes.

For the packing of Roses to home districts fern (bracken) is employed at King's Acre instead of straw. It is found to be considerably cheaper than straw, while it is quite as good if not better for the Roses. Mr. Cranston purchases the bracken from Wales, and the extent of his consignment this year is suggestive: it amounts to forty tons of dry fern. This is stored as far as possible in barns, which are now full, but when the packing season is over will be empty.

A visit to a great Rose-growing establishment during the packing time affords an excellent opportunity for observing the varieties which are most popular with the Rose-growing public. And here the old Gloire de Dijon has a more honourable position than in the Rose election. Of all Roses it is the greatest in request. The stock of it—and a fine sight it is—at King's Acre now ready for distribution is upwards of six thousand plants, and these even on the 20th of October were "all sold!" The stock of Maréchal Niel is, to use a nursery phrase, always "run off its legs." Baronne de Rothschild is the most popular of the light Roses, indeed of any Rose excepting those above named, and upwards of five thousand are provided to meet the demand. La France sustains its popularity and increases in favour yearly. Four thousand plants have recently bloomed grandly at King's Acre, and another year they will bloom somewhere else. It is one of the most continuous in blooming of all Roses—one of the most chastely beautiful, and one of the most sweet. Amongst the dark Roses Alfred Colomb and Marie Baumann head the list in the public estimation, and the pair are here represented by nearly ten thousand plants. Of other varieties the Rose election poll of the *Journal of Horticulture* is a good index of merit in public estimation, and the Roses there honoured are increased accordingly.

Mr. Cranston's fine Rose Sir Garnet Wolseley is apparently in great demand, for the stock is large and the blanks already numerous. Another King's Acre Rose—a garden decorative and forcing Rose—Cranston's Crimson Bedder, is grown largely and sold readily; indeed the stock of this year is already "sold out." An order of five hundred plants of it for America was being executed. These were principally for forcing, it having proved valuable as a winter and spring bloomer.

Then there are the Teas—the lovely Teas. Year by year the demand increases for these charming Roses, and glass erections have to be increased for growing them in pots. Many hundreds of small plants are plunged in brick pits and protected when needful; and larger plants are accommodated in houses—splendid plants, it may justly be written, and splendid houses. One of them, a new one just erected by Messrs. Boulton & Paul, is an extremely fine structure; not highly embellished, but neat, light, strong, and well arranged and ventilated. The glass of this house (21-oz.) is well bedded in putty, but no top putty is used. It is a span-roof, 150 feet long by 24 feet wide. There is a central stage or bed, and side stages, with hot water beneath for bottom heat in the propagating season, when cases are placed over the beds which are now filled with fine plants. These plants were worked in January last, and are now in 7 and 8-inch pots—large plants, well trained and ripened, which will bloom freely all the winter. A finer example of Rose-culture is seldom seen than that afforded by this admirable collection of Teas. What plants can surpass such as these for decorative purposes and affording button-hole blooms and drawing-room flowers? None. What can equal them? Few. Near this is another house still larger; it is the same length, but wider and more lofty—the Rose conservatory. Here in a broad central bed the Roses are planted out. "Trees," real trees, some of them are which would gladden the eyes of "PARSON'S GARDENER," for he would require a ladder for cutting the blooms. On the side beds are Roses in pots, but a few are planted-out with a view of arching them over the path at intervals, which will add to the attractiveness of this house. A "tree" of Maréchal Niel in this structure must be a "sight" when in bloom. Its stem is of great size, but it will persist in swelling faster than the stock of its foster-parent the Briar on which it is worked, and this may shorten its days.

Other span-roofed houses there are of smaller size—about a dozen of them—some filled with Roses, some with Vines in pots, some with greenhouse plants, and some are propagating houses for Conifers, which, with fruit trees, appear to be next in importance to Roses in this nursery.

A large tree in the centre of the nursery demands notice—a fine old specimen of a weeping English Oak. It originated here; its branches are distinctly pendant, and it is very ornamental. On the lawn adjoining Mr. Cranston's house is a grand specimen of the Cedar of Lebanon planted about ninety years ago by a former proprietor; it is matched by a Purple Beech planted at the same time, but the Cedar has attained the greater proportions. The lawn is now cheerful by some admirable specimens of *Thuja aurea*, which show to advantage now the flower beds are bare—bare but not unsightly, for they are planted with bulbs, and neatly finished in a workmanlike manner, which contributes so much to the appearance of a garden in winter. The outside of the residence is draped with Ivy and Wistarias. And the inside? Well, it contains all that a wandering rosarian needs—quiet but genial converse, rest, &c.

Such is King's Acre in winter. What must it be in summer? Perhaps a "HEREFORDSHIRE INCUMBENT" will tell us by-and-by.—NOMAD.

SPIRAL VALLISNERIA (*V. SPIRALIS*).

NATIVE in ditches in Italy, especially near Pisa. Communicated from near Arles in Provence by the late Dr. Broussonet



Fig. 65.—*Vallisneria spiralis* mas.

in 1784. Mr. Brown found what he is almost certain of being the same species in New South Wales, about Port Jackson. This plant is perennial, flowering in summer and autumn. The root consists of long fibres, and propagates itself very widely by means of runners, so that the canals in which the *Vallisneria* grows are choked up with its foliage and rendered not navigable for boats. Stalks of the female flowers very long, thread-shaped, unbranched, single-flowered, curiously spiral, but becoming more or less straight when the flower is ready to open, by which means the latter floats on the surface, and after impregnation the stalk coils up again and lodges the fruit at the bottom of the water. This fruit is

3 or 4 inches long, and are rather of the nature of a berry than a capsule. The male flowers grow on a separate plant on short, simple, straight, radical stalks. Each minute white flower separates from the common spadix, and rises closed, like a little bubble, to the surface of the water. Bursting there, these flowers float about in immense numbers, covering the water, and impregnating the females above described.



Fig. 66.—*Vallisneria spiralis* femina.

This singular aquatic plant is popular in small globe aquariums; it grows with tolerable freedom and is not difficult to manage, and the great interest attaching to it when grown in this way is to see the circulation of the sap, which can easily be observed with the naked eye.

NOTES FROM CORNISH GARDENS.

PENTILLIE CASTLE, THE SEAT OF COLONEL CORYTON.

UPON a steep and thickly wooded hillside high up among the trees, standing out clearly, yet having an air of snug cosy warmth, is Pentillie—a stately building with elegant surroundings upon a commanding yet sheltered position in the centre of a wooded crescent, with the river Tamar flowing past its foot in a bold graceful curve, onward in serpentine sweeps to a still bolder curve, where it widens like the expanse of a lake, beyond which rise other hills undulating and broken—not into abrupt declivities or anything approaching startling contrast, but with rounded contours and flowing outlines, wonderfully varied yet all in harmony. That is the characteristic of the Castle and its position, of its pleasure grounds and woods, of the views which it commands; unity, fitness balance—no clashing, not one offensive object or feature; softness and repose most skillfully interwoven with infinite variety.

My work of inspection and note-taking at Pentillie were done quietly, deliberately, and under peculiar advantages; but too often one's visit to places worthy of careful inspection is just a mere rush through, a hasty scribbling of notes and away again to catch some inflexible "express." Here it was not so. In response to an invitation from its kindly owner I arrived at the Castle overnight just as darkness was coming on so fast as to impart a weird-like indistinctness to everything out of doors, even including a magnificent *Magnolia grandiflora*, to which I, and Mr. Boscawen, who accompanied me, groped our

way to have "just one look" before going in. In the morning the first sight which met my eyes was a *Pinus insignis* full 80 feet high in perfect health, and no unworthy rival of the Lamorran trees, standing right before my bedroom window upon a steep grassy slope running from the terrace bounding two sides of the Castle down to the bottom of a glen which intersects the crescent, not detracting from but rather contributing to the grace and beauty of the general effect, while forming in itself a distinct and striking feature. There are other fine trees near the insignis, over which I looked on to the farther side of the glen, all clothed with a dense growth of deciduous trees, and with just a few picturesque old Scotch Firs upon the highest point of the slope, imparting a finish and character to the scene so unique that with the sense of admiration came the more uncommon one of luxurious enjoyment. Such depths of shadow among the trees, such a play of

light among the branches, as the rays of the rising sun glinted down among them! It was one of those clear bright mornings which come to us as summer lingers upon the threshold of autumn, and which always seems to me a fitting type of the calm bright happiness that soothes the declining years of a well-spent life; and as I threw up my window to enjoy the fair scene fully, up from among the trees came an intermittent cooing of doves, breathing of security, contentment, and peace.

A closer inspection of the whole of the grounds and gardens strengthened the agreeable impression to which this first view gave rise. I found much to admire—ample variety, many fine and distinct features, with an unity of tone and connection in every part; abundance of fine timber, flourishing specimens of many Conifers, flowering shrubs well represented and presenting themselves in that pleasant guise always attendant upon tasteful arrangement combined with healthy growth; a

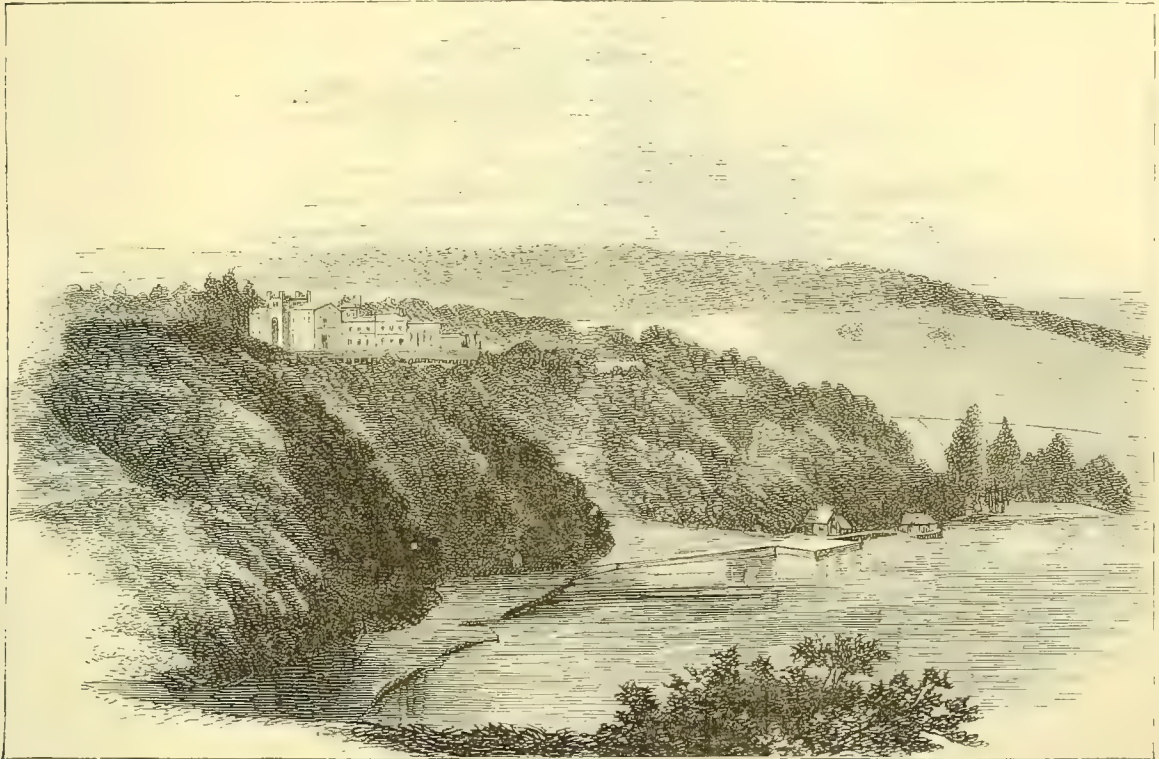


Fig. 67.—PENTILLIE CASTLE.

good collection of climbing plants, beds and borders well filled with flowers in great beauty, and in the kitchen garden an abundant supply of vegetables and fruit, successional crops all in capital order and condition, reflecting much credit upon Mr. Edwards the able gardener, who evidently has his charge thoroughly well in hand.

The terrace is, of course, the most important feature of the gardens close by the Castle. It starts from a level expanse on the carriage front, and is continued along the south and east sides of the building, overlooking most of the scenery to which I have alluded. The abrupt descent of the slopes from the south terrace renders its retaining wall a high one, which has been turned to account by clothing it with a collection of thriving climbing plants, including most familiar with the more uncommon kinds of Myrtle, Pomegranates, *Solanum jasminoides*, vigorous, healthy, and very ornamental; as was also a large *Mandevilla suaveolens* that has climbed right on to the top of the wall, hard by an almost equally vigorous example of the sweet-scented *Clematis flammula* bearing a cloud of its pretty flowers. *Magnolia grandiflora* was also well represented by several large specimens both here and upon the Castle itself, all of them remarkable for the large size of the deep green glossy foliage clothing every part of the sturdy branches. A ribbon border running along the foot of the terrace wall gay with summer flowers contained an uncommon and very attractive feature in a broad back row of

Lilium speciosum rubrum, or roseum, just bursting into flower, and which would thus serve to impart a freshness—a kind of autumnal beauty, to the border that is desirable and worthy of imitation.

From the east terrace a lawn slopes gently outwards to the crest of the hill which sweeps upwards to it from the river, all covered with timber and an undergrowth of *Rhododendrons*. The outward boundary of the lawn is a low belt of shrubs composed entirely of choice flowering kinds, imparting brightness and variety at all seasons of the year, and which in spring and early summer must form a gay floral fringe that is in charming contrast to the dense foliage of the tree tops below. This lawn imparts dignity to the adjacent buildings and an air of repose, but not quite in the telling manner it would do if its somewhat stiff formal semicircular outlines were softened into more graceful flowing curves, and three or four flower beds now dotted upon its centre were turfed over. It is true that these faults are quite of minor importance, yet where all else is so superior one does not like to see a single blemish; nor are these likely to remain unaltered, for a conservatory in course of construction close by betokens a spirit of progress and desire for improvement.

Retirement, seclusion, and pleasant shade abound in the numerous paths winding among the trees from the terrace along the slopes down to the river. As we go down flourishing examples of Oak, Chestnut, and Beech are seen on all sides,

forming a pleasant sight, and a useful lesson in the conviction which they bring to the mind of careful planting and judicious thinning, the free stout growth of the Oaks especially presenting a striking contrast to the stunted appearance of the Oak coppice, of which one sees so much in Cornwall. These trees are seedlings, while the coppice growth is all from the stools of old trees that have been cut down, hence the difference. At the river side a flight of steps leading down to the landing-pier impress one as being in good keeping with the position, consisting as they do of simple blocks of granite with no elaborate balustrades, but with what may be termed natural and certainly very ornamental spandrils of Escallonia, Berberis, Spiræas, Cotoneaster, Garrya, and Pampas Grass, all mingled together in wild and charming confusion.

The only really level expanse is by the carriage front of the Castle, not a formal court, but having its outline apparently determined by the natural formation of the adjoining slopes, falling away on one hand and rising on the other in picturesque variety. It forms a central point upon which the carriage drive and the walks leading to the most important features all converge. The idea is a happy one, and we will act upon it by making one or two excursions from here, turning first to a walk along the inner slope of the glen under the overhanging branches of some "brave old Oaks," past several flourishing Deodars and other choice Conifers, onwards for a considerable distance till it enters the wild woodlands beyond under an overhanging arch of leafage, forming an appropriate ending to the dressed grounds in that direction. The treatment of this inner slope is so excellent as to merit a full description, which shall be given in due course; and I will only state here that its frequent unbroken stretches of turf from the walk down to the bottom of the glen tend materially to enhance the effect of the densely wooded outer slopes.

Grand old plants of Yucca, Berberis, Arbutus, Rhus Cotinus, and Rhododendron stud the banks which rise abruptly on the other side of the carriage front. Upwards among them winds another path to a charming little flower garden—a circle with surrounding pillars and pendant chains, all covered with climbing plants, and with a novel entrance through an arcade of Cotoneaster microphylla. I am tempted to linger here, but must not, for the constantly ascending path leads onwards among rich masses of shrubs, and still invites us to explore. We follow, and are well rewarded, as we enter an American garden, which I must pronounce most excellent. Its outlines are a series of long irregular symmetrical curves, with a background of tall trees. The beds, also having irregular curved outlines, are on turf, and contain Rhododendrons, Azaleas, Kalmias, and Andromedas, all of large size and in robust health. The walk winds upwards among the beds, and it is when one reaches the upper end and turns to look back that the full beauty of this garden is seen. Nothing clashes, all is in harmony: the beds in their disposal, their form, and the shrubs which they contain. The enclosing belts of shrubs and trees exclude all surrounding objects except just one little opening at the lower end, where through a fringe of boughs a narrow vista of the river, the swelling country beyond, and the granite crags of a lofty tor on distant Dartmoor, meets the eye like a vision of fairy land, the reality being far more beautiful than any fanciful conception ever could be. It is true that the garden itself is a work of art, but this glimpse of rich natural scenery, lying far away beyond its boundaries, and yet apparently so near, imparts a charm and finish to it of which mere description can only serve to convey a faint idea.

From the Rhododendron garden the walk goes onwards among other shrubs, still ascending under lofty trees, many of which have Honeysuckles trained up the stems and left to ramble wildly among the branches—till it leads out into the grassy uplands of the park, where from the highest point the whole magnificent landscape comes fully into view, spread out before the eye—a veritable panorama. Nothing appears to be wanting; water, woods, hills and valleys, breezy uplands and shadowy hollows—all are here in infinite variety, stretching away far as the eye can reach in rich and picturesque profusion. In the foreground the winding Tamar stands out prominently, and away to the south-east, over the waters of the Hamoaze, are the clustering houses of Devonport and Plymouth; the Albert Viaduct at Saltash, Brunel's greatest work; the heights of Mount Edgecombe, whence the eye sweeps westwards over many other places "famed in ancient story," but which I must not enumerate here, catching glimpses as it passes of lofty hills which loom dimly in the far distance, and

numerous tors that spring upwards from the bosom of rugged Dartmoor.

I must not conclude these notes without devoting a few words to the kitchen garden. The path from the Castle to this garden is a straight one 9 feet wide and 400 feet long, the branches of large timber trees overhang it, and it has a broad fringe of Fern on each side, so that it has a cool, shaded, refreshing appearance that is very inviting in summer. In the garden I found some good black Grapes well coloured; excellent Muscats—not exactly prizewinners, but with plenty of those well-finished, compact, little bunches that tell best upon the dinner-table. Peaches were abundant and the trees in capital condition, both on open walls and under glass. Cherries and Figs are grown in curious structures formed of a framework of timber with fine wire netting stretched over it—a novel and sure way of excluding birds, but not a desirable object to see permanently established in a garden.

There were some good plants in the houses and a capital lot of Gardenias in a pit, with the pots plunged in leaves, which impart that cool moisture in which this plant thrives best in summer. A bed of Solanum Capsicastrum in an open border was excellent, as the plants invariably are when so treated in summer, the branches being laden with berries and well clothed with deep green foliage. The treatment of these and other plants in course of preparation for the coming winter, together with the excellent condition of the vegetable crops, all betokened intelligent culture and painstaking alike worthy of the garden and creditable to the gardener.—EDWARD LUCKHURST.

PEARS.

In answer to "L's" letter on page 305 I beg to say we can supply him with trees of the Pear he requires, Désiré Cornelis, as dwarfs or pyramids on the Quince stock. With us it is a Pear possessing good flavour and is of medium size.

I am very much surprised to hear that Louise Bonne de Jersey does not succeed well with him, as with us it bears well in the orchards as a standard, attaining a fair size, and is first-rate in quality. Beurré Bosc, another Pear he mentions as variable, has with us proved to be one of the best orchard Pears. Some years ago we grafted an old tree of Aston Town or Grey Beurré standing in the orchard with this variety, and it has borne large crops of fruit I believe every year since. This season is in our neighbourhood a most wretched one for nearly every kind of fruit; notwithstanding this our friend Beurré Bosc has borne a crop of 8 pecks, 18 lbs. to the peck, and the quality was sufficiently good to command a price of 6d. per pound. "L." does not mention Williams' Bon Chrétien. I should think it would succeed well with him. With us it is very hardy, and bears almost every year; this year, however, it had but a poor crop. Beurré d'Amanlis is another hardy Pear, which as a rule bears large crops as a standard, but this year it has failed us. This is scarcely to be wondered at, as on March 1st we enjoyed three hours' skating, the thermometer having registered 16° and 18° of frost the two previous nights. Pears which had set a fair crop and were looking well lost all their fruit. I can fully endorse all that your correspondent Mr. Witherspoon says respecting Marie Louise d'Uccle. It is extremely hardy, and of first-rate quality for an orchard Pear. Each season we have an increasing sale for this Pear.—ALFRED H. PEARSON, *Chilwell, Notts.*

GLOIRE DE DIJON ROSE.

It is somewhat remarkable that this, the most popular and best known probably of all Roses, should not rank high as an exhibition Rose, but it is none the less true; and rarely where the class is limited do we see an exhibitor venturing to place it with his Marie Baumanns, Alfred Colombes, &c.; it lacks the form and permanency so desirable in an exhibition Rose. But wherever a few Roses are grown, there in some form or other, as a standard, but more frequently as a climbing Rose, is old Gloire to be found. A detailed history of it is given in the "Journal des Roses" for October, but, as has been remarked, nothing is said of its parentage. There is a very good reason for this—nothing is known of it. Some years ago I had the pleasure of visiting the gardens of M. Henri Jacotot at Dijon, where it was raised, and he told me that it was entirely a chance seedling, coming up in an out-of-the-way corner of his garden, but from whence he knew not. It would indeed be a curious thing to know of how many of our best Roses can the pedigree be traced, and whether hybridising is much resorted

to among rosarians (I do not speak of English raisers, but of foreigners). I remember some years ago the elder Margottin of Bourg-la-Reine saying to me that he thought we were getting too much of the blood of G  r  al Jacqueminot amongst our Roses, and that he was going to try back, at the same time showing to me the plants from which he was hoping to obtain seed; but he has obtained nothing since that year of any value. We read indeed of such a Rose that it is the "issu de Jules Margottin," or "Victor Verdier," &c., but I think that simply means that the heps have been gathered from these varieties, not that they have been hybridised; my own impression (it may be a wrong one) being that this is not in any appreciable degree resorted to by our neighbours. There is one thing in connection with this Rose that I would notice, and that is the miserable caricature of it that appears in the "Journal des Roses." I remember when I edited the "Floral Magazine" how often I used to be bantered about Andrews' figures of Roses, and how often the superiority of the foreign artists was lauded. Well, take this plate for an example, and can anything be more wretched? Neither in form, colour, or foliage is it a bit like the Rose, and I am sure that neither Fitch, Worthington Smith, Burbidge, or McFarlane would venture to turn out such a production. Whatever they may do in other matters, we certainly cannot say of the figuring of Roses "they do these things better in France."—D., Deal.

ADIANTUM FARLEYENSE.

It is a gem amongst Ferns, and by this time has found its way into almost every collection; and when for the first time a plant is procured we justly regard it as a treasure that requires our tenderest care to develop it into all its natural grace and beauty. It is truly the queen of its genus, and those distinct qualities which it possesses render a special note on its successful culture desirable.

The plant is certainly of easy growth, for in the hands of nearly all Fern-growers no difficulty is experienced in producing fine healthy fronds. But still it is a fact that many cannot succeed with it; in this case undoubtedly the disappointment of the gardener is equal to that of the employer. Sometimes I have found it in a cold fernery, sometimes in a greenhouse, and planted out as a rockery plant; it is seldom to be found in perfection in such situations as those. It is extremely tender and delicate when sent out by the trade, and a check is often given in transit which is not soon remedied. It delights in a shady quiet atmosphere—no sun, no draughts, and a close barrier between the plants and hot pipes. I find it is a good plan to have the stage slated over and covered with a layer of gravel, or cocoa-nut fibre refuse, which I give the preference to. Afterwards I place the plants on inverted pots; this brings the plants 12 inches higher than the ordinary level of the stage plants, and affords ample room for the Ferns, and enables their graceful weeping to be admired from all sides.

In paying a neighbourly visit to some of my friends I invariably find this Fern potted in a compost which is anything but suited to its requirements. On one occasion I discovered it potted in bog peat and silver sand. On such discoveries I invariably recommend the *Journal of Horticulture* as a remedy for such vexing mistakes. The standard compost for this Fern is usually peat, loam, and charcoal in equal parts. It should be thoroughly mixed, open, and rough. In this they will grow vigorously. Care should be taken in the drainage; if defective the pots become waterlogged. In potting I have found it a good practice to keep the stool of the plant rather high, as the fronds come more vigorous. When the pots become filled with roots I find liberal watering requisite, still given by one, however, who knows from experience when to withhold and when to give.

P.S.—Have any of your correspondents noticed A. farleyense to produce seed spores? I have carefully watched it, but so far in vain.—JOHN BOND, Balbriggan.

SILVER BEET.

This Beet is not so much grown as it should be. It is a very excellent vegetable. We have been using it since June, and shall continue using it for some time longer yet. Three long rows of it were sown with the other Beets at the end of April. The plants were thinned out to fully a foot apart, as it produces a bushy head of green leaves, each of which have a very large broad midrib pure white in colour. This is the part that is used. It is cooked precisely the same as Seakale,

and many tasting it for the first time take it for this vegetable; but it is much better than Seakale, and it is much longer in season, and also requires less attention in cultivation.—A KITCHEN GARDENER.

A ROSELESS AUTUMN.

I VENTURE to write a line to say how the Roses have done this autumn in the eastern counties. I am surprised to see in your *Journal* of October 18th in a letter by Mr. J. W. Moorman that Messrs. Fish and W. Paul have found this such a Roseless autumn. I am glad to say that this has not been the case by any means here. I quite agree with Mr. Moorman with regard to the autumn Roses this year. I never had such blooms before of such size, such substance, so abundant, or of so good a colour, that it was impossible to mistake what a Rose really was, as is so often the case with autumn blooms.

I will mention a few of the varieties which have done very well. I will begin with the Teas, which I may say have all bloomed abundantly, but especially Marie Van Houtte, Madame Camille, Catherine Mermet, Niphetos, Souvenir d'Elise, and the beautiful though much despised, at least by some, Cheshunt Hybrid. Of the Hybrid Perpetuals, Marie Baumann, Marquise de Castellane, E. Y. Teas (which I think will soon vie with Marie Baumann for first place in the Rose election), Madame Victor Verdier, Capitaine Christy, La France, Auguste Rigotard, Dr. Andry, Comtesse d'Oxford, Jules Margottin, and Comtesse de Serenye have been most conspicuous; but I could name several more, which would make this letter too long, but I must not omit the Baroness, which has been splendid—much better here this autumn than in the summer, when she was thin.

My soil is a stiff heavy loam, and, of course, good for Rose culture; but I attribute the beautiful blooms I have had not so much on account of the soil, but because a great portion of my Roses are budded on the seedling Briar, which I have obtained of Mr. Prince, Oxford. I am quite certain that the seedling Briar is the stock on which to grow the Rose, and I most strongly recommend those who grow Roses for exhibition to give the seedling Briar a trial, and I feel certain they will not be disappointed. I have to-day (October 19th), cut a large basket of Roses, and hope to continue to do so for a short time longer, until Jack Frost comes to rob us of our queen of flowers.—EDWARD LYON FELLOWES, Wimpole Rectory, Royston.

FORCING ASPARAGUS.

LAST spring in cutting the Asparagus we left one long bed untouched. This produced many strong shoots, which must have strengthened the roots very much. These stems are yellow and ripe now, and will be cut off close to the surface of the bed at once. In the first week in November a quantity of the roots will be lifted out of this bed for forcing, and the first dish will be cut from them about the middle of December. Asparagus is a favourite dish with our family at all times, but it is doubly valued at Christmas and about that time when choice second-course vegetables are scarce.

Asparagus is not a difficult vegetable to force. It cannot be forced, however, without a good deal of bottom heat. This is what is most required, and must be had either from hot dung or hot pipes. We force ours above both. A steady bottom heat of 75° brings it on well. Hot-water pipes in beds are generally covered over with boards or some other covering to prevent the stuff in the bed from resting on the pipes; over the platform of boards 2 inches of very open soil should be spread, then lift the roots, remove most of the soil from them, and pack them in the bed on the 2 inches of soil as close as they will lie together without covering one another. When the desired quantity is packed-in cover the crowns over to the depth of 2 inches with the same kind of soil as that which is below them, work it well in amongst the roots, and when this has been done give the whole a thorough watering with water heated to 80°. Keep the atmosphere close after this, but provided the bottom heat be 75° the air heat need not exceed 50° or 55°, and this need not be increased. The roots must be kept regularly moist. As soon as the young tops can be seen keep the atmosphere moist, and on sunny days the bed may be damped over with the syringe. Begin cutting as soon as the shoots are 3 inches high; cut off all the small twigs as soon as they appear. When the whole has been cut lift the roots out and throw them away. They will not pay to keep. About three weeks after the first lot has been

placed in heat another batch must be put in in the same way to keep up a succession. Where a supply is wanted until it is ready out of doors a lot must be introduced every three weeks until the end of February.

In forcing it on dung beds (the beds must be made up like any ordinary hotbed, with a frame on the top of it) spread the soil over the dung the same as it was over the pipes, pack the roots in, and do it exactly in the same way as in the pit; but care must be taken not to give too much water at the roots, as the soil does not become dry so quickly above the damp dung as the hot pipes. During cold nights, when the tops are above the soil, cover them with glass; when the heat declines add fresh linings around the frame. My greatest objection to hotbeds is that in wet weather they soon lose the heat, and this of course they are much more liable to do in winter than at any other time. I have a bed about 4 feet wide and the same in depth in the inside of a lean-to house which I fill with dung as a hotbed, and this I find holds the heat as long again as the hotbeds outside.—A KITCHEN GARDENER.

Johnston's Elements of Agricultural Chemistry. Edited by DR. CAMERON. Tenth Edition.

The above title is a guarantee of excellence, for both author and editor are well known as good authorities. One extract will show the nature and value of the contents.

CHANGES WHICH FARM MANURE UNDERGOES IN STORAGE.—Fresh farmyard manure generally contains about 70 per cent. of water and 30 per cent. of (dry) organic and earthy matters. Only a very small proportion of the dry matters consists of substances soluble in water. In a short time, however, the organic matters—straw, &c.—begin to ferment, one result of which process is the production of soluble compounds. Fresh manure produces but little effect when applied to crops; but when it is far advanced in decomposition (*i.e.*, well rotted), it then contains so much soluble matter absorbable by plants that it acts as a powerful fertiliser if used in sufficient quantity.

In fresh manure the most important constituent of its soluble portion is potash; of phosphoric acid and ammonia it contains but very small proportions. Rotten manure, on the contrary, yields to the solvent action of water large amounts of nitrogen and phosphoric acid. If good fresh farmyard manure be dried at 212° F., the soluble organic matters of the residue will be found to amount to from 7 to 8 per cent., and its soluble mineral matters to from 4 to 5 per cent. On the other hand, dry rotten farmyard manure contains from 13 to 16 per cent. of soluble organic matters, and 5 to 6 per cent. of soluble mineral substances.

Dr. Voelcker has shown that there is very little free ammonia in either fresh or old farmyard manure, and that the peculiar odour of the latter is not due, as popularly supposed, to the escape of ammonia from the manure. In the hot centre of a fermenting dung-heap some free ammonia is formed, but this is prevented from escaping by the cold outer layers of the manure, which act like a chemical filter.

Dr. Voelcker, in a paper of great value published in the 17th volume of the Royal Agricultural Society, gives the following summary of the changes which farmyard manure undergoes in storage:—

1. That during the fermentation of dung the proportion of both soluble organic and soluble mineral matters rapidly increases.
2. That peculiar organic acids not existing—at least, not in considerable quantities—are generated during the ripening of dung from the litter and other non-nitrogenised organic constituents of manure.
3. That these acids (humic, ulmic, and similar acids) form, with potash, soda, and ammonia, dark-coloured very soluble compounds. Hence the dark colour of the drainings of dung-heaps.
4. That ammonia is produced from the nitrogenous constituents of dung, and that this ammonia is fixed for the greater part by the humus substances produced at the same time.
5. That a portion of the sulphur and phosphorus of the excrementitious matters of dung is dissipated in the form of sulphureted and phosphoreted* hydrogen.
6. That volatile ammoniacal compounds, apparently in inconsiderable quantities, escape into the air.
7. That the proportion of organic substances in fresh dung rapidly decreases during the fermentation of dung, whilst the mineral substances increase in a corresponding degree.
8. That this loss of organic substances is accounted for by the formation of carbonic acid, oxide of carbon, and light carburated hydrogen, or marsh gas.

* It is not probable that phosphoreted hydrogen is given off during the decay of any kind of ordinary organic matter. Ploss and Hoppe-Seyler found that decomposing fish emitted sulphureted hydrogen, but not phosphoreted hydrogen.—C. A. C.

9. That the proportion of nitrogen is larger in rotten than in fresh dung.

LOSS OF FERTILISING MATTERS FROM MANURE.—The experiments of Voelcker show that farmyard manure does not lose much by exposure to air, heat, and light. The deterioration which ill-kept manure-heaps undergo is therefore due to losses by drainage. The dark-coloured liquid which we too often observe trickling away from badly kept dung-heaps is rich in nitrogen, phosphoric acid, and potash.

Koerte found that one hundred loads of dung kept in the usual wasteful manner were reduced at the end of—

	Loads.	Loads.
81 days to 78.8,	sustaining a loss of 28.7	
285 "	64.4, "	35.6
384 "	62.5, "	37.5
499 "	47.2, "	52.8

Thus in sixteen months more than one half—and that the most valuable portion—of the manure had disappeared, leaving a highly carbonaceous matter, poor in all the elements of fertility.

NOTES ON VILLA AND SUBURBAN GARDENING.

In a former calendar the lifting and transplanting of trees and shrubs was referred to, but the unusual spell of dry weather which has followed since those instructions were given has prevented most of us from fully carrying them out. Now that the soil has had the benefit of heavy rains we urge on all who contemplate alterations and additions of any kind to proceed with them as rapidly as possible. Whether it be the removing or thinning of already existing plantations, the renewing of fresh Rose beds, or the alterations or additions of fruit trees, the sooner they are permanently placed in their new stations the better chance they have of making fresh roots before the extreme cold weather is with us. A list of trees, shrubs, and climbers is appended. The selection is chosen either from their beauty or from some other good quality rendering them well adapted for small gardens. Many are excluded that are likely to grow out of proportion to the size of most villa or suburban gardens. Among the evergreen shrubs the *Aucuba* is especially noted for its spotted Laurel-like foliage, and its readiness to grow in almost any soil and situation places it pre-eminent as a town shrub. *Aucuba japonica* vera, maculata and angustifolia, are amongst the best. If the true green male variety is introduced the possibility is that during the winter months some of the shrubs will be loaded with beautiful scarlet berries. *Berberis aquifolia* and *B. Darwinii*, the many varieties of *Box*, *Cotoneasters*, *Escallonias*, and *Euconymuses* are also suitable; *Garrya elliptica* with its nut-like catkins is very attractive during mild winters; the various sorts of *Holly*—the Gold, Silver, Prickly, or Smooth-leaved—are very bright and always pleasing; *Olearia Haastii*, *Skimmia japonica*, *Veronica Andersoni*, *Yucca recurva* gloriosa and filamentosa, are all worthy of notice. Of deciduous trees and shrubs some of the Maples, such as *Negundo fraxinifolium* and its variety *albo-variegatum*; *Acer japonicum* polymorphum, *A. platanoides* dissectum and laciniatum; the Snowy *Mespilus*, one or two smaller-growing forms of the Birch, double-flowering *Cherries*, *Chimonanthus fragrans* and *Jasminum nudiflorum* for covering walls; Hawthorns, notably *Paul's New Scarlet*; *Cydonia japonica*; *Deutzias* crenata flore-pleno, gracilis, and scabra; *Leycesteria formosa*; *Syringas*, especially the large-flowering variety *Philadelphus grandiflorus*; *Prunus sinensis* flore-pleno; Elders of the variegated and cut-leaved varieties, and all the *Weigelas* are excellent for shrubberies. Of climbers *Ampelopsis hederacea* and *A. Veitchii*, *Clematis flammula* and *Jackmanii*, the various forms of *Ivy*, *Lonicera aurea reticulata*, *Jasmines*, and *Ceanothus Veitchianus*, *azureus*, *rigidus*, and *dentatus* are all useful for covering walls and fences. Compact specimens of *Conifers* for lawns are the Gold and Silver *Yews*, *Retinospora plumosa* and *R. p. aurea*, *Retinospora filicoides* and *R. obtusa* aurea, *Cupressus Lawsoniana gracilis*, and *C. L. erectis viridis*, *Thujaopsis borealis variegata*, *Thuja aurea* and elegantissima, with *Junipers*, are all suitable. For larger-growing specimens *Cedrus Deodara*, *C. Libani*, *C. atlantica*, *Abies Albertiana*, *Piceas lasiocarpa*, *nobilis*, *Nordmanniana*, and *Pinsapo*, *Thuja gigantea*, and the renowned *Wellingtonia gigantea* should all be included. Great care should be taken in planting those larger-growing trees not to place them too near to walks or the sides of buildings; for although at the time of planting they may look well, in the course of a few years they become obstructives, and then there is a difficulty of removing them.

In planting the various specimens care must be taken to break the ground well around and underneath them, and if large breadths of planting are done there is no better way than trenching the ground. Merely digging small holes and cramming the roots into them is like digging a grave to receive them, especially in heavy soil, for on such ground the water is held around the roots as if in a pond the whole of the winter, consequently the smaller fibres—the feeders—decay.

Selections of Roses have so recently been given in your pages,

and amateurs cannot do better than choose from the "election," for generally speaking the best exhibition sorts are also the best for general purposes. A deep pulverised and richly manured soil suits them best; and if there are any doubts that beds have become exhausted through being planted for a length of time, or that Elm or other roots of trees are exhausting the soil, by all means lift the Roses, deeply trench and manure the bed, and replant them again. Collect Briar stocks and plant them in rows for next year's budding. Roses in pots which have been plunged out of doors during the summer ought now to be placed under cover, merely keeping on the lights during heavy rains and in severe frost. The weather has been very favourable for ripening their wood, and an over-abundance of moisture must necessarily be kept from them, or the sap will rise and bleeding will follow pruning. Where pits or houses cannot be spared to protect them lay the pots on their sides and protect them from being frozen. Where early blooms are desired the plants should be pruned at once, and brought on in a very steady temperature. No flower has a greater dislike to harsh treatment than Roses in pots, and for very early forcing it is well to prune hard and use the smaller plants; the larger plants will make a greater display during the early summer months.

Chrysanthemums which have been recently housed must not be kept close, but air must be freely admitted if good foliage is desired. Continue helping them with manure water, as the majority of the blooms are very late this year. Elaine and James Salter of the Japanese section are the only flowers open with us yet. For some years we have had numbers of blooms open by the 1st of November.

Asparagus beds should now be cleared of their ripe stems and the weeds hoed off, and a liberal dressing of manure spread over the beds to lay throughout the winter. The principal other work for the present will be the collecting of leaves and keeping the garden as neat as possible.—J. W. MOORMAN.

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

HARDY FRUIT GARDEN.

We have now had a good soaking of rain, which will enable us to do any transplanting that may be required. Previous sharp frosts have caused the leaves to drop. It is as well to take an early opportunity to transplant any trees that it is intended to move to another site, either because alterations in the winter require it, or young trees have grown too much and require to be removed to make room for others. When they have been for many years in one place the roots within 3 or 4 feet from the main stem are not well furnished with fibres. In order to insure complete success it is well to dig a deep trench round the tree and cut most of these roots at that distance from the stem, in the same way as we have already recommended for root-pruning; this should be done so as to allow a season to intervene between the time of cutting the roots and lifting the trees. After the growth of one season a mass or bunch of fibrous roots will have been formed from each root that has been cut, and when the tree is carefully lifted and planted in its new position it will suffer but little from the removal. When the trees are removed the holes, which of course must be ready for their reception, should be rather larger than the full spread of the roots. It is not always possible to have turfy loam decayed and chopped up to place amongst the roots, but if it can be had it tends much towards the formation of fibrous roots. When the tree is planted and the earth firmly levelled round it a mulching of manure must be placed over the roots, and it should extend to their furthest extent.

Owing to the rain we have not quite finished gathering all the fruit, but will do so the very first favourable opportunity. We frequently look over the Apples and Pears stored in the fruit-room to remove those that are decaying, as there is most injury from decay the first few weeks after the fruit has been gathered. We shall take the first opportunity when the ground is hard with frost to mulch under the dwarf-trained trees in the kitchen-garden borders with good manure. Many persons never dig under the trees, but we think it better just to lightly fork over the ground once a year—that is, in the early spring. It might be better for the trees to leave the mulching as it is, but we have found that it causes the kitchen garden to be very untidy at a time when every part of it ought to look its best. The small birds scratch the manure over the gravel walks, and if this is cleaned up one day it is scattered over again the next. Leaves are now blowing about in all directions, but as they are mostly down on the ground now we shall at least clear the walks of them.

PINE HOUSES.

We do not grow a sufficient number of plants that will fruit in the winter to devote a whole compartment to their culture. If we could do this the night temperature would range from 65° to 70°, according to the weather. The plants require to be

very carefully attended to as regards watering. It is better rather to under than over-water them. We examine the soil once a-week and water all that require it. As a rule the pots require water about once in two weeks. In fine weather the temperature by day may rise to 75° or 80°. No moisture is allowed to evaporate from the troughs over the hot-water pipes after the last week in October, and it is sufficient to moisten the walls and paths of the house twice daily. In our house, where plants are at rest to start early in the year, there are several fruits in various stages, some taking the second swelling and others just set. The temperature ranges from 55° to 60°, and with that temperature very little atmospheric moisture is required, and as the pipes are not much heated it is not necessary to sprinkle water about except after cold nights followed by sunny days. We are not watering the plants at all that are resting, and they are not excited by much bottom heat. Those showing fruit require water sufficient to keep the fruits plump and in a growing condition, as it is out of the course of nature to rest plants swelling their fruit, and we would have them in a higher temperature if we could. Suckers for succession are also wintered in the same temperature and receive very similar treatment. They are now growing in 6 and 7-inch pots, and will receive but little attention until they are potted into their fruiting pots in the spring.

ORCHARD HOUSE.

This structure is now filled with Chrysanthemums of the different types, either for specimens or plants trained to a single stem, so as to have flowers of the largest possible size. The fruit trees have as usual been plunged out of doors in cocoa-nut fibre refuse, where they will remain fully exposed to the weather until they are removed into the house about the beginning of the new year. Strawberry plants are also left out until about the same time. If the roots are likely to be saturated with water we lay the pots on their sides, which prevents injury from this cause. Should severe frosts occur it would then be quite necessary to place them inside, where the pots would be protected. We do not think the roots receive much injury from frosts, but the expansion of wet soil splits the pots.

GREENHOUSE AND CONSERVATORY.

This is a critical period of the year for Cape and New Holland plants. They are not unlikely to be attacked at this season by many of the ills that plant life is heir to. Mildew is, perhaps, the most insidious in its attacks. The leaves and branches are sometimes covered with its hair-like threads before it is perceived. The skilful and experienced cultivator is not to be caught napping, and he knows the plants most likely to suffer; knowing also that prevention is better than cure, his plants will be dusted with flowers of sulphur, which will resist any encroachments of the enemy. Next to it is red spider, which attacks many species and varieties. It has a warm affection for the pretty new *Boronia elatior* and others of this species besides, and as the under sides of the leaves are attacked first we lay the plants on their sides and syringe that portion of them thoroughly with tepid water. We shall now find an opportunity to train some of the hardwooded specimens into the required shape, and in doing this the habits of the plants ought to be studied. It is the nature of many plants to form irregularly shaped bushes, and when these are grown in pots a few of the stronger main branches will take the lead and overpower those of weaker growth; judicious pinching performed at the right time will prevent this. Sometimes it is better to tie such strong growths down, the weaker growths will then be encouraged. Many species need no sticks, others must have sticks placed to them to support the stems and form a regular shapely specimen. In this category come the slender-stemmed *Heaths*, *Dracophyllum gracile*, the several species of *Aphelexis*, &c. We use sticks made of sound pine wood painted green, and the most lasting material for tying is the black linen thread used for sewing carpets; it can be obtained at any carpet warehouse at a cheap rate. One shilling invested will serve the requirements of a large establishment for twelve months.

We have now potted the Hyacinths, Tulips, and Polyanthus Narcissus for late flowering. They begin starting into growth about the end of October, and we fancy it must exhaust the bulbs to allow them to do this. The potting material has been previously described, and we would now only say that the pots should be clean and be removed to an open space and covered with ashes, cocoa-nut fibre refuse, or some similar protecting material.

Some persons fancy that Hyacinths must be protected from heavy rains, and we have seen them stored under the stage of a greenhouse, than which there could scarcely be a worse position. We saw one lot much injured from this cause. When the pots were taken out some of them were saturated with wet from being under the drip of water from some of the plants; others had not been under the drip, and these were dusty dry. As a consequence of this mismanagement all the plants were weakly and did not flower well. We never saw them suffer from wet when the pots were plunged in the open.

The Lilliums were cut down some time ago and ought to be

potted at once. We shall have them done the first opportunity. They have sometimes been potted with turfy peat in the compost, and at others without it, using only turfy loam, and we did not notice any difference in the quality or strength of the flowers or spikes. There are some sorts of loam that do not mix well with peat; the loam of our own district does not. The best loam to mix with turfy peat soil is a yellow medium clayey loam, which is found at Wanstead, Wimbledon, and Epsom commons, and in which the common hardy Heaths grow naturally. We have not used any artificial heat in our houses this season yet, nor do we notice any injury from damp to the flowers.

FLORIST FLOWERS.

The Auriculas which have been all the summer and autumn behind a north wall have now been removed from that position to one where they are fully exposed to the sun. Previous impressions are confirmed, that the Auricula delights in a dull moist season. The northern growers state that they have seldom had a stronger or more healthy growth, and the weather there has been dull and cold enough with more than the usual quantity of rain. The weather with us has not been so favourable, and there is plenty of autumn bloom owing to the drought and heat when they were making their autumn growth.

Weather which has been favourable to the growth of Auriculas does not suit the Carnation and Picotee, and the principal growers in the north state that they have not yet been able to take off all their layers. The "grass" was not ready to layer until the last week in August, and the weather since has not been favourable to the development of the plants. Our own have all been taken off, and some of those left until the last (about two score pairs) did not seem to have any roots, or they were in some cases just forming; these were taken off and potted in the usual way, and the pots plunged in a gentle hotbed. In that way they speedily strike roots, and as the heat declines air is admitted more abundantly to strengthen the plants. Pinks certainly never made better growth than they have done this autumn—they are almost as strong as Picotees. The ground must now be stirred amongst the plants with a Dutch hoe.

We are about planting out a bed of seedling Pansies, and also named sorts. These plants are apt to become infested with green fly under glass, and it is convenient to put them out in their flowering beds at once.—J. DOUGLAS.

TRADE CATALOGUES RECEIVED.

Richard Smith, St. John's Nurseries, Worcester.—*Catalogues of Fruit and Forest Trees, Conifers, Roses, Alpine and Herbaceous Plants.*

Francis & Arthur Dickson & Sons, "Upton" Nurseries, Chester.—*Catalogue of Select Roses.*

James Bromwich, 25, Buckingham Palace Road, Belgravia, S.W.—*Catalogue of Dutch Bulbs and Room and Garden Ornaments.*

Cranston & Co., King'sacre Nurseries, Hereford.—*Descriptive Catalogue of Selected Roses.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

BACK NUMBER (*A Subscriber*).—You can have the number dated October 4th. ASHES AS MANURE (*J. F. K.*).—The sulphur will be beneficial.

GOLDEN QUEEN GRAPE.—We think it has been discussed sufficiently. Attention has been aroused, and cultivators may judge for themselves.

VALUATION (*A Constant Reader*).—Consult a neighbouring gardener. No one can give a trustworthy opinion without seeing the plants and knowing the locality.

JERUSALEM ARTICHOKE (*N. J. M.*).—If taken up before required for use place them in layers alternated with sand in a cool shed. If your garden nets are soaked in a tanner's vat and kept in a dry place the moth will not attack them.

CAMELLIAS UNDER VINES (*Yorkshire Amateur*).—Your idea is a good one. Camellias do well under Vines. They grow freely and flower abundantly. Plant the old Double White, Lady Hume's Blush, Bonomiana, Imbriata, Mathotiana, Lavinia Maggi, and Elegans.

REMOVING WALNUT TREE (*G. T. Wade*).—Now would be a good time to transplant; but if it has been ten or twelve years in one place it would be more satisfactory to dig round it, as is recommended for Apple and Pear trees in another place, and transplant it next year. You may now cut the branches off.

PRUNING PYRACANTHA (*Mrs. Holmes*).—It is too late to "clip the breast-wood with a pair of shears" of the Pyracantha, also the Escallonia and Cotoneaster. Cut out with a knife a sufficient portion of the shoots to enable you to secure the remainder to the wall thinly and without crowding them.

BUCKWHEAT CULTURE (*S. W. F. K.*).—The proper time for sowing buck wheat is in May, when there is no longer any danger to be apprehended from the frosts, for so tender is this vegetable at its first appearance as to be un-

able at an earlier period to withstand the vernal cold. The slightest frost in their infant state would infallibly cut off the young shoots; and as from this circumstance it must be sown at a season when dry weather may be expected, the crop on that account not unfrequently fails. The produce, which varies with the seasons (and this is rather an uncertain crop), ranges from two to four quarters per acre. It is commonly grown in England in preserves as food for pheasants and partridges. It is an excellent food for poultry; pigs thrive upon and are fond of it (it is commonly given to them mixed with potatoes), and when bruised it is good food for horses, two bushels being equal for this purpose, it is said, to three of oats (a bushel weighs about 46 lbs.). Cows when fed with it yield a large increase of milk. Sheep when fed upon the plant when in blossom stagger and tumble about as if drunk. It is sometimes made into hay, which is nutritive, but tedious to make, and should be consumed before the winter. It is often grown on poor exhausted soils and ploughed-in when in bloom; in this way it increases very materially the fertility of the soil, and is a mode often practised in Essex, Suffolk, Norfolk, and in Scotland. Mr. Ballingal has given an account of his experiments with it upon a clay loam recently limed, from the result of which he warns his brother farmers that it is "needless to attempt to grow it upon damp soils, or to expect full crops upon lands exhausted by overcropping."

PRESERVING GRAPES (*Grape-Grower*).—Nine-tenths of the gardeners in the country have no better means of preserving their Grapes than you have, but you lack the best-keeping Grape—viz., Lady Downe's. If you had given the inside border only one good watering after the Grapes began colouring it would not want more until they are all cut. If you read "Doings of the Last Week" you will find all the information about ventilating, firing, &c. You will gain nothing by bending down such stout stems as your Vines have.

REMOVING YOUNG PEAR TREES (*F. I.*).—They may be safely removed this autumn. It is not necessary to keep the union between scion and graft covered now if it has taken well; if not, tie a binding of matting round the union, not very tight.

WINTERING BEDDING GERANIUMS (*Idem*).—You had better not cut them back until the spring, as you have only cold frames to winter them in.

TRAINING YOUNG FRUIT TREES (*Idem*).—If for pyramids cut the "maiden" stem back one-third; for espaliers and cordons it ought to be cut back to 15 or 18 inches from the graft.

CRINUM CAPENSE PLANTING (*Manx Cat*).—We have had Crinum capense planted by the margin of a stream four years. It appears thoroughly established, and has flowers every year. The top part of the bulb is some 2 or 3 inches below the surface, and the soil is that of an ordinary garden border. It requires no protection in winter, and may be planted immediately.

TRITELEIA UNIFLORA (*A. Boyle*).—Triteleias are quite hardy and do not require the shelter of a frame in winter as was once supposed. Plant in rich well-drained soil, not crowding the bulbs, but afford each plant ample space for its full development, and you will have flower spikes 8 or 9 inches high. The flowers are sweet-scented and appear in early spring, continuing in full beauty for several weeks. You may plant them at the present time, including those you have in the pit.

NERTERA DEPRESSA (*A Constant Reader*).—Take shallow flower-pans and fill them with rich soil, say one part of loam and two parts old hotbed manure; pour in water till the soil acquires the consistency of mud, then prick little bits of the Nertera upon the surface; place the pots upon a light shelf in a pit or greenhouse. Keep plenty of water in the pans, and the plants will spread over the surface, flower freely in spring, and become cushions of bright little orange-coloured berries early in summer, when they may be planted-out when required for the flower beds. The plants grow freely potted in the ordinary fashion, but they are apt to bear very few berries when so treated.

AMMONIA versus SLUGS (*A Country Vicar*).—One gallon of gas ammoniacal liquor mixed with seven or eight gallons of water will kill slugs if poured on the soil, and will banish worms if applied to a lawn.

DUKE OF BUCCLEUCH GRAPE (*F. W. T.*).—The colour of the berries is pale amber.

ROSE (*H. R. C.*).—We do not think your specimen is of Narcisse, but of Isabella Sprant.

DR. HOGG GRAPE (*C. T. H. Dorset*).—Dr. Hogg Grape will ripen in the same temperature as the Chasselas Musqué. We should not graft it on that Vine. It would probably do well grafted on the Black Hamburgh, or you may plant a young Vine of it. It is a good Grape with a Frontignan flavour, and what may be termed warm Black Hamburgh treatment will suit it.

NAMES OF FRUITS (*Rus in Urbe*).—1, White Paradise; 2, Summer Golden Pippin; 3, Norfolk Stone Pippin. (*T. P.*).—1, Lady's Finger; 2, Cellini. (*G. McG.*).—2, Alfriston; 6, Northern Greening; 7, Large Hunthouse; 8, Cox's Pomona; 10, Braddick's Nonpareil; 11, Tower of Glamis. (*W. D.*).—Red Calville. (*H. J. B.*).—1, Winter Hawthornden; 2, Wormsley Pippin; 3, Gloria Mundi; 4, Not known; 5, Golden Noble; 6, Hall Door. (*G.*).—2, Minshall Crab; 3, Winter Greening; 4, Cox's Pomona; 5, Not known; 6, Russet Nonpareil. (*Spero*).—1, Not known; 2, Adams' Pearmain; 3, Striped Seeding; 4, Bess Pool; 5, Summer Pearmain. (*E. H. R.*).—1, Keswick Codling; 2, Not known; 3, Yorkshire Greening; 4, Dumelow's Seeding; 5, Cox's Pomona; 6, Ribston Pippin. (*M. A. W.*).—Hollandbury. (*E. R.*).—Trumpington.

NAMES OF PLANTS (*W. F. R.*).—Sedum carneum fol. var. (*L. H.*).—It is Honesty (Lunaria). It is quite hardy. (*R. Carnall*).—It is a Tropaeolum, but we cannot name the species without seeing a flower.

POULTRY, BEE, AND PIGEON CHRONICLE.

OXFORD POULTRY SHOW.

THE sixth Meeting was held on the 24th and 25th inst., and was by far the largest show which has so far this season been held. The arrangements were all exceedingly good, and reflected the greatest credit on Mr. King and his working Committee. All the minor details were here satisfactorily looked after, such as chaff, gravel, grass, and good food for the birds, and the exhibits were mostly very effectively staged. We much regret that the civic authorities should not take more interest in the Show, for the visitors it brings to their city and the consequent advantages for trade must be considerable.

Dorkings with four classes were the first in the catalogue where the cup pen were a pair of Darks of great merit, their shape, combs, and feet being all that could be desired. The second were very fine birds, but the pullet hardly in her full beauty. The cup Silver-Greys were excellent, the cockerel's colour being extremely good, and his pullet a great beauty in full feather and good condition. The first Alexandra Whites here again scored the similar honour, and most deservedly; they are of superb colour, and good in combs as well as being large, while the cup Cuckoos were very even in markings and large in frame. We were glad to see the quality so satisfactory in this class.

Spanish were not a large collection, but we thought the quality very good. The winners won their places easily, and we much liked the pullet in the third-prize pen.

Cochins were in excellent force, and we thought the winners well selected in each department. In Buffs the winners were the first Alexandra pair claimed there of Lady Gwydyr. They were in beautiful feather and looked well. The cockerel in the second pen was very rich in colour, and had a good-coloured pullet. In Partridges the first pullet was very good, her pencilings being excellent. The cockerel in the second-prize pen was as yet in poor feather, and requires some time to have his neck hackles down. The cup Whites were in fine condition, and though not very large deserved their place, and we are sorry to say that the tail feathers of both birds were many of them clipped by some evil-disposed person, as was, too, the fluff and side feathers of the second-prize cockerel. In Blacks the cup pen were in the best feather, but the second were the largest. The pullet here was, however, moulting her neck feathers. We were sorry to see no Cuckoos exhibited.

Brahmas mustered well, especially the Lights. The winning pullet was prettily marked, and her mate will in time probably be a good one; as yet he is rather raw in appearance. The cup Lights were much hooked or else very large, and the second and third were also good, though the latter cockerel could have been of a better colour with advantage. Mr. Lingwood's pens in both classes were empty.

Game made a great feature in the Show, and we believe the awards were on the whole most favourably received. All agreed in the great excellence of the £10-cup Black Red cockerel, which was claimed at the catalogue price of £50 during the Show. His colour, style, and shape were all perfection. The cup Black Red pullet was also very good, and this choice was again much approved of. The Brown Red cockerel which won the cup was very shapely and good in feather, as was the same exhibitor's Duckwing. In the other pullet class a Pile, very fine and good in colour was first, the same bird which won at the Alexandra, we believe. In the undubbed class a stylish Brown Red won the cup, and a good Black Red had the second honour.

Hamburgs made the finest display we have so far this season seen of the breed. The cup Silver-pencils were very pretty, and the pullet good in markings; the cockerel will look better when his tail is more matured. The cup Blacks have had the same position frequently before, and the cock is glossy and neat, but certainly too pale in the face. The Golden-spangles were good, and the pullet handsome in moons, with a good cockerel. The Golden-pencils were very strong, and there were several capital birds as well as the winners which came in for cards.

Polands were of great merit, though the Blacks were few in number. In this colour the cup pen were the whitest in crests, and deserved their position. The Silvers, too, were good, though it is doubtful if either second or third were not superior to the cup pen; but all were remarkably fine, and all came from one yard in the first place we believe. The Golds made the largest class, and the quality was very good, the third-prize pens being very even in merits and well selected.

French came to the front in a strong way. The Houdans were especially numerous and good. There did not appear to be much between the first and second, but the latter were the darker; both, however, were large, good in claws and crests. The cup Crêves were not, perhaps, the largest, but we liked them as a pair. Mr. Wood had a larger cockerel, but his tail was far too high.

Malays were extremely good, the pullets especially, there being many of that beautiful dark pheasant colour which we so much admire. The winning cockerel was a very tall and fine bird, and we thought they won easily. Mr. Hinton had a good pullet, and Mr. Downing a good cockerel.

Americans brought forty pens, and they were very fine. The Whites, though placed in a high situation, looked to advantage, and the cup pen were certainly very large and good in combs and ears. The Browns were very light in colour as far as the noticed pens went, and the fine condition of the cup and second-prize pen doubtless helped to place them.

White Silkies and *Sultans* were grouped in the upper gallery with the ornamental Waterfowl, and this department was in the evening the most crowded with visitors. The cup and second Silkies were very near each other in points, and in Sultans an old pair in very lovely feather took premier honours in a good class.

Andalusians mustered sixteen pens and made a striking feature of the Show. The winners were excellent, and were well-grown chickens; many of the other pens required more time.

In the Variety class La Flèche were first and Plymouth Rocks second, and third going to Black Minorcas. This class was not so good as many of the others in its quality.

Bantams were a good lot, but unfortunately the Game were much in the dark and could hardly have justice done to them. The winning Blacks were exceedingly lustrous and smart; and the cup Laced very beautiful Silvers, the hen finely laced and most pure in ground colour. In the Variety class very pretty Pekins won first and White Rosecombs second, White Japanese having third place.

Waterfowl were wonderfully good, and the Aylesburys and Rouens very fine indeed, the former cup pair being large and very clear in bills. The Blacks were better than we have before seen them this year. The first and second were small and bright in colour; the third were larger or else good in colour, and were claimed at catalogue price. The Mandarins and Carolinas were almost a show in themselves, very beautiful specimens of the first-named winning the cup. Their lovely condition and feather were something to be remembered. In the variety Duck class a good pen of Kasarkas came in first.

The *Geese* were numerous, and all the prizes went to Greys; while in *Turkeys* the cup pen was very fine and in beautiful condition, appearing to be at the same time very youthful indeed.

The Judges were Messrs. Hewitt and Teebay, who divided the work between them.

PIGEONS.

The Pigeons were shown as usual in the Town Hall. So popular is this Show becoming that this building, formerly amply large enough for many poultry classes as well as for the Pigeons, is now barely large enough for the exhibition of the latter and the Bantam classes.

Carriers came first as usual. Blue or Silver cocks numbered eight. The first and second-prize birds were excellent, both Blues. Mr. Fulton's struck us as the best in beak wattle, but Mr. Stretch's in colour. Fifteen Black cocks were entered. An old acquaintance won first and cup in capital trim. Second is magnificent in wattle, but not quite perfect in beak. Dun cocks numbered eight. First and second were well-known winners. We should almost prefer the latter when in his best trim. Blue or Silver hens (eleven), first very fine in form, second good in colour. Black or Dun hens (sixteen), first and cup Mr. Fulton's splendid Black, which we have before described; second a Dun with good wattle, third another good Dun. Any other colour, cock or hen (eight), first a White, better in points than Whites generally are; second and third Pies. Black or Dun, hatched in 1877, a class of twenty-nine, only four of which were noticed. We fear many birds were shown in this class which ought from their age to have been in the preceding classes. First-and-cup a capital Dun, second a nice Black, third a Black too. There were nine entries in the class for young birds of any other colour; first and third were Blues, second a good White.

Pouters had five classes. The cup went to Mr. Lang's White hen. She is a beautiful bird all round, but some breeders of coloured birds thought themselves aggrieved by the award from the additional points, difficult to produce, possessed by the coloured varieties. It may be a mistake for whole-coloured to compete with marked birds for the same cup, but when they do so we consider that the best bird of its kind should have the cup, and consequently think this award a good one. The bird was, we believe, claimed for thirty guineas. Blue or Black cocks (ten), first a Black very long in limb, second an immense Black, third a pretty Blue. Blue or Black hens (eleven), first a very pretty Blue, third a Black. White cocks (thirteen), first a very large and grand bird, second and third very fair. White hens (nine), first the above-mentioned hen; her one blemish seemed to us shortness of thigh. Any other colour (eleven), first Red, good all round; second another Red, very slim in girth, and generally thought the best bird in the class; third a Yellow.

Barbs had three classes. We have seen much better shows of this breed. Cocks (twelve), first-and-cup Mr. Headley's Black, well ahead of the rest. Hens (eight), first a well-known Yellow thoroughly out of condition, second a Black. Hatched in 1877 (eight), the winners all attractive birds and young, others in the class looked antique.

Tumblers.—Almond (eleven) were a capital class. First-and-cup a very beautiful cock, second a hen prettily marked. Young Almonds numbered only six; the first and second were very promising. Mottled Short-faced (nine), first a Black rather lightly mottled, second a Red, third a Black with too much mottling, extending over the back. Short-faced, any other variety (eleven), all the winners were Agates and beautiful birds. First a cock, second and third hens. Balds or Beards not Short-faced (ten), first a Blue Bald, second a Black Bald, third a Blue Beard. Any other variety (eight), three Yellow Mottles won.

Dragoons.—This variety had no less than eighteen classes, 232 entries, £31 15s. in prize money and four cups! Proud in-

important article of food for the poorer classes of the population, a breeding establishment was erected in a few months, with six hundred cages for that number of does, with a larger number of compartments for the young. The prejudices of the public have been combated by publications and by facts. A shop for the sale of Rabbits was opened, and in four months twelve thousand head were killed and sold. Messrs. Costamagna not only taught how the Rabbits were to be cooked but added example to precept. They distributed in various parts of Italy upwards of one thousand animals of the best breeds, and have also placed at the disposal of persons of small means one thousand five hundred Rabbit families—in all nine thousand animals—with their cages, &c. The debt thus incurred by the receivers is redeemable by a small annual quota of the products.

BEE GOSSIP.

YOUR correspondent, P. H. Phillips, describes a bar-framed hive which is in many respects similar to a hive which I described in your Journal many years ago. It is there called "the Tasmanian hive," because I first made use of it when I was resident in that part of the world. In shape it differed from the one described at page 317, inasmuch as at each end it tapered down at an angle of 45°, so that in shape it resembled somewhat an ordinary beetle trap reversed. The object of this was to facilitate the removal of the end combs. It answered well enough, but I found its great length unwieldy in my apiary, and finally it was cut back to the dummies which terminated the hive at ordinary times right and left of what Nutt would have called "the pavilion of Nature." Where, however, room is no object, I am persuaded that the principle of Mr. Phillips's hive is a thoroughly sound one; this his success in so bad a year has proved. The only hope of honey this year in ninety-nine cases out of a hundred lay in preventing all swarming and having the hives as full as possible of bees, to be in readiness for any glut of honey which might come for a longer or shorter time. Seventy-one pounds of honey from one hive is no bad result in any year. In a good year such a hive worked simultaneously with supers and side combs ought to produce almost any amount of honey, taking out combs and removing supers as fast as they were filled. In the old fashion of working supers it was always difficult to prevent swarming, owing to the bees often being overcrowded before a super was removed, as the bee-master was anxious to have it perfectly sealed-up in every part before removal.

The use of perforated zinc by Mr. Phillips also proved a success, although probably each bee found a difficulty in wriggling its body through the narrow aperture. This would appear at first sight rather an objection to the zinc, but "the proof of the pudding is in the eating." Long ago I discarded zinc feeders from observing the difficulty with which bees got their bodies over the sharp edge. It often required several efforts before they succeeded. This would be remedied in the case of the perforated zinc if it were possible to have a thick cardboard lining with holes perforated to match.

This autumn threatens badly for my bees. Usually all this month they are actively pollen-gathering from the ivy which in many years affords a considerable quantity of honey. As it is—probably owing to the ivy being late, as all flowers have been this year—perfect stagnation reigns in my apiary. No pollen-gathering means no breeding, and this again means a weakened population with which to begin the new year, and everybody knows what that promises, or rather portends, for 1878. Two years ago we had a wretched autumn, and numbers of hives perished the following spring from the same cause.

It is curious to observe the difference in queens. This year I introduced two lively young queens imported from Italy, supplanting with them two degenerate queens. One of them set to work immediately, and is the mother of a large proportion of the population of her hive. The other has remained perfectly quiescent; only yesterday for the first time did I see a pollen-laden bee enter the hive after a six-weeks reign of its imported queen. What is the cause of this strange difference? I have noticed it before, and thought the queen dead, which afterwards turned out very prolific. In this case both hives have been steadily fed, but one has taken down five times as much as the other, both being well peopled.

I may mention that, finding the less active of these Italianised stocks deficient in weight, while the bees refused to feed from the bottle, I recently adopted a plan which answers well and is particularly safe for late feeding. I screwed an eke of about 1½ inch stuff to a bottom board, which is a *fac-simile* of the one in use by this hive. Within the space I lay pieces of sound drone comb flat on the board, and carefully fill each cell with the syrup. The hive which exactly fills the eke is quietly set over it, and the old bottom board removed. As fast as the food is taken up the cells are refilled. In warm weather this method of feeding can be safely adopted throughout the winter, with the maximum of hope that the bees will store away enough food, and the minimum of risk of all other dangers.—B. & W.

OUR LETTER BOX.

THE PIGEON FANCY (J.).—General complaints are of no influence. We will readily insert any statement of actual wrong.

EGGS IN WINTER (L. H.).—We have had a fair supply of eggs from Brahmas. Fowls do not injure ivy.

PIGEONS (J. E.).—"The Pigeon Book" can be had from our office if you enclose twenty postage stamps with your address. The Blue Rock would suit you.

GRANTHAM SHOW.—S. Woodhouse, Esq., Mapperley, asks for the Secretary's name. A letter addressed to "The Secretary," we think would be delivered to him.

BAR-FRAMED HIVES (W. H. Attwood).—Your hives 18 inches square and 11 inches deep, if inside measure (clear), we think too large. But the size of hives must be regulated in great measure by the productiveness of the country. Here we find the Woodbury size fully as large as our most favourable seasons authorise us to use—namely, 14½ inches clear, and 8½ inches deep. By no means transfer your bees at this time of year, it would be ruinous to them. Wait till May, or April at the earliest, and do it in warm and sunny weather.

CANARY SUFFERING FROM ASTHMA (M. H. Bath).—From the description given of your "old pet," we believe the bird is suffering from asthma, and we think there is but slight hope of the objectionable noise abating, unless death ensues. The causes of the disease may be easily accounted for. The occasional "throwing-off of feathers" has been brought about through the bird being suspended from the upper part of the room, and breathing a high temperature during the time the fire and gas are lighted, and then afterwards during the night time combating with a temperature many degrees lower. Such treatment is "enough to kill a horse." However, supply the sufferer freely with plantain seed (upon the stems which may be obtained in abundance just now), and plain biscuit steeped in sherry, likewise about twice each week give the bird a drop of cod liver oil so administered that the oil may be deposited in the bird's throat instead of upon the feathers surrounding the beak, which can easily be opened with a large needle or bodkin. Whilst the beak is moderately opened let a careful assistant deposit the oil in the throat from a thin quill or skewer. For an occasional diet give bread and milk. If you have not a cat the bird will breathe purer air if you lower the position of the cage about a couple of feet, but keep the invalid out of draught, and let it roost with a cloth over the cage during night time.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.					
	Baromet. at 32° and Sea Level.	Hygromet- er.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.		Rain.
		Dry.	Wet.			Max.	Min.	In sun.	On grass.	
1877.										
Oct.										
We. 24	Inches 29.538	deg. 42.2	deg. 40.1	W.	deg. 47.7	deg. 55.6	deg. 39.1	deg. 95.5	deg. 34.0	In. 0.500
Th. 25	29.299	51.5	51.2	S.E.	48.0	53.2	41.5	65.8	39.7	0.281
Fri. 26	29.788	49.8	47.9	N.W.	48.7	55.0	46.6	79.3	42.4	0.423
Sat. 27	29.896	53.2	51.2	S.	48.2	57.3	45.7	70.5	39.6	0.442
Sun. 28	30.082	48.5	46.0	S.	48.1	59.2	42.4	92.2	38.0	0.020
Mo. 29	29.841	54.8	52.3	S.	48.1	58.3	42.1	57.8	38.7	0.262
Tu. 30	29.867	49.7	49.7	W.	49.2	61.3	45.6	98.0	41.2	0.010
Means	29.758	49.8	48.8		48.3	57.3	49.1	78.4	39.1	1.935

REMARKS.

- 24th.—Very fine sunny day; rain at 7.30 P.M., and nearly all the rest of the evening; fine night.
 25th.—Rainy morning, wet and dull day; fine at night.
 26th.—Close damp morning, finer afterwards; foggy from 5 P.M.
 27th.—Wet morning, slight sun at intervals from 10 A.M. to noon; very heavy rain from 2 to 2.50 P.M.; fine night.
 28th.—Very fine day; misty in evening.
 29th.—Damp, dull, and wet day; very warm in the evening, the temperature at 9 P.M. being 57°.
 30th.—Overcast in morning, slight sun at intervals, and very windy after 5 P.M. A dull damp week, and at times windy.—G. J. SYMONS.

COVENT GARDEN MARKET.—OCTOBER 31.

TRADE quiet. We have no alteration to report from last week.

FRUIT.

	s.	d.	s. d.		s.	d.	s. d.
Apples.....	½ sieve	1	6 to 8	Oranges.....	£	10 0	0 to 16 0
Figs.....	dozen	1	0 3	Peaches.....	doz.	8	0 24 0
Filberts.....	lb.	0	4 0	Pears, kitchen.....	dozen	1	0 8 0
Grapes, hothouse.....	lb.	1	6 6 0	Pears, dessert.....	dozen	2	0 4 0
Melons.....	each	1	6 4 0	Pine Apples.....	lb.	5	0 8 0
Nectarines.....	doz.	4	0 18 0	Plums.....	½ sieve	10	0 12 0
				Walnuts.....	bushel	5	0 8 0

VEGETABLES.

	s.	d.	s. d.		s.	d.	s. d.
Artichokes.....	dozen	8	0 to 6 0	Mushrooms....	pottle	1	0 to 2 0
Beans, Kidney.....	bushel	2	0 4 0	Mustard & Cress	punnet	0	2 0 0
Beet, Red.....	dozen	1	6 8 0	Onions.....	bushel	0	0 0 0
Broccoli.....	bundle	0	9 1 6	Pickling.....	quart	0	4 0 0
Brussels Sprouts.....	½ sieve	4	0 0 0	Parsley....	doz. bunches	0	0 0 0
Cabbage.....	dozen	1	0 2 0	Parsnips.....	dozen	0	0 0 0
Carrots.....	bunch	0	4 0 8	Pears.....	quart	0	6 1 0
Cauliflowers.....	£ 100	1	6 2 0	Potatoes.....	bushel	8	6 5 0
Celery.....	bundle	1	6 2 0	Kidney.....	bushel	5	0 7 0
Coleworts doz. bunches	2	0	4 0	Radishes. doz. bunches	1	0	1 6 0
Cucumbers.....	each	0	3 0 9	Rhubarb.....	bundle	0	6 1 0
Endive.....	dozen	1	0 2 0	Salsify.....	bundle	1	0 0 0
Fennel.....	bunch	0	3 0 0	Scorzonera.....	bundle	1	0 0 0
Garlic.....	lb.	0	0 0 0	Shallots.....	lb.	0	8 0 8
Lettuce.....	dozen	1	0 2 0	Spinach.....	bushel	2	6 4 0
Leeks.....	bunch	0	4 0 0	Turnips.....	bunch	0	3 0 6
				Veg. Marrows..	each	0	2 0 4

WEEKLY CALENDAR.

Day of Month.		Day of Week.	NOVEMBER 8-14, 1877.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
Day	Month			Day.	Night.	Mean.							
8		TH		52.0	34.3	43.1	7 9	4 19	11 18	5 53	3	16 7	312
9		F	Lord Mayor's Day. PRINCE OF WALES BORN, 1841.	50.5	38.8	42.2	7 10	4 18	0 a 6	6 59	4	16 2	313
10		S	Sale of Bulbs at Stevens's Rooms.	50.4	34.0	42.2	7 12	4 16	0 40	8 11	5	15 56	314
11		SUN	24 SUNDAY AFTER TRINITY. MARTINMAS.	50.2	34.2	42.2	7 14	4 15	1 3	9 26	6	15 49	315
12		M		50.2	33.8	42.0	7 15	4 13	1 21	10 39	7	15 32	316
13		TU	Sale of Nursery Stock at Derby.	49.9	35.2	42.6	7 17	4 12	1 34	11 50	8	15 23	317
14		W	Brixton and Gravesend Chrysanthemum Shows. Carter's Root Show.	48.5	33.8	41.2	7 19	4 10	1 46	noon.	9	15 13	318

From observations taken near London during forty-three years, the average day temperature of the week is 43.8°; and its night temperature 34.9°.

APPLE ELECTION.



HAVE received twenty-five lists, and another year I hope many other lovers and cultivators of the Apple will assist. At the same time I think the result will be of use to many intending planters, and also an aid to growers for grafting and other purposes. There will be many an opportunity for discussing the relative merits of the Apples in the lists, but as planting time is approaching, I will make a few observations on the leading sorts

as a guide to small growers—that is, growers of a few sorts. I only consider the result of the election as a very small guide to the orchardist as to planting for profit; but at the same time I think it shows the merits of the Apple as an Apple for profit and merit combined.

In the dessert kinds I have received the names of ninety-two sorts; I have included thirty-two in the lists, leaving off with those that had received four votes. The Blenheim is at the head of the list, not on its merits as a dessert Apple, but on the votes awarded in both kinds, and if left in the two lists it would not have had due justice rendered to it. Cox's Orange Pippin, there is no doubt, is now the king of dessert Apples. I believe it will do well either as a standard or pyramid. The Ribston will still remain with us (although I should not recommend it for planting), while its merits for flavour are handed down to successive generations. It is impossible to discuss the merits of all the kinds at this time, but for bearing in succession I have found the summer Golden Pippin, King of the Pippins (now ripe), Court-Pendu-Plat, and Sturmer, generally have a crop. In kitchen Apples it is a curious coincidence that the number receiving four votes should be within one of the dessert—viz., thirty-three. There is another fact, that two kinds stand far ahead—viz., Wellington (Dumelow's Seedling), and Lord Suffield. If I had to choose two more sorts for a small grower that would be constant bearers I should take Cellini and Beauty of Kent. But there is one point in relation to cooking Apples that I should like to see carried out, and that is the result of the cooking of a certain quantity of the best known Apples by measure, and I think it would be found that many of our sorts, although producing a quantity on the tree, would not make much apple sauce.

There are many kinds of Apples that do better grafted on another stock. The best to plant for stocks are Goff, Cellini, and Beauty of Kent, and many sorts will grow on these stocks that refuse to bear on any others. I have many notes that I shall be pleased to place before your readers in future numbers, but I do not think the publication of the result should be deferred, and therefore send it for publication this week. I only hope it may be the means of enlarging the knowledge of Apple-growers as to the best sorts to grow and the best means of growing them.—LEWIS A. KILLICK, Mount Pleasant, Langley, Maidstone.

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DESSERT APPLES.

	Votes.		Votes.
Blenheim Pippin	22	Wellington	24
Cox's Orange Pippin	21	Lord Suffield	23
Ribston Pippin	20	Alfriston	14
King of the Pippins	16	Keswick Codlin	13
Scarlet Nonpareil	14	Hawthornden	13
Kerry Pippin	14	Cox's Pomona	12
Devonshire Quarrenden ..	14	New Hawthornden	11
Irish Peach	13	Cellini	11
Margil	12	Bess Pool	10
Court-Pendu-Plat	11	Warner's King	9
Sturmer Pippin	11	Bedfordshire Foundling ..	9
Astrachan	9	Tower of Glamis	9
Summer Golden Pippin ..	8	Northern Greening	9
Court of Wick	8	Striped Beefing	8
Old Nonpareil	7	Duchess of Oldenburg	8
Golden Harvey	7	Ecklinville Seedling	8
Mannington's Pearmain ..	6	Emperor Alexander	8
Red Joanetting	6	Stirling Castle	7
Cornish Gilliflower	6	Beauty of Kent	7
Ashmead's Kernel	5	Gravenstein	7
Early Harvest	5	Yorkshire Greening	6
Golden Reinette	5	Fearn's Pippin	6
White Joanetting	4	Rymer	6
Reinette du Canada	4	Small's Admirable	5
Old Golden Pippin	4	Gooseberry Pippin	5
Melon Apple	4	Winter Quoining	5
Lord Burleigh	4	Manx Codlin	5
Claygate Pearmain	4	Hollandbury	4
Wyken Pippin	4	Norfolk Beefing	4
Pearson's Plate	4	Waltham Abbey Seedling ..	4
Sam Young	4	Nelson's Glory	4
Cockle Pippin	4	Hanwell Souring	4
		Lord Derby	4

ECONOMY IN HEATING GREENHOUSES.

Now that the time has again arrived for the heating of greenhouses and other glass structures by artificial means it may not be out of place to say a few relative words, but more especially in reply to the remarks of "RESPICE FINEM" which appear on page 246 of a recent issue of this Journal.

"RESPICE FINEM," in the first chapter of his Three-years Experience in a Greenhouse, gives an interesting account of the ways and means of erecting his house, and I would say that amateurs who have the time and ability (for it is not everyone who is blest with either), and are desirous of putting up a similar house as cheaply as possible, cannot do better than follow him in his *modus operandi*; but I am afraid that few if any of us amateurs will care to follow in his footsteps as to heating them. By this I do not so much mean the apparatus by which they are heated as the cost of doing so.

Roberts's patent terra-cotta stoves such as used by "RESPICE FINEM" are, if I mistake not, intended to be, and from all I have heard of them if properly handled are no doubt, fuel-economisers; and therefore I read with considerable surprise that it had cost him £2 15s. for heating his small house during a period of eight months. I could scarcely think that possible; but notwithstanding the amount seemed to me large at the time, on calculating what would be the cost per hour for the period stated I find it is a trifle under one-eighth of a

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penny, which does not after all seem very much, yet compared with the outlay for heating my house it is excessive.

While it cannot be for a moment doubted that "RESPICE FINEM" went the right way to work in erecting his house, it appears to me that he did not do so in feeding it; and therefore I beg to offer to him, and others who may feel enough interest in the matter, some notes as to the way in which I heated mine at much less cost for the years 1876-7, while at the same time maintaining an average temperature of 50° throughout three seasons of the year—i.e., autumn, winter, and spring.

My house is considerably larger than that of "RESPICE FINEM," being 15 feet long by 8 feet wide, and the heating apparatus consists of a brick flue, once straight through the house, the furnace being inside the house but fed from the outside. For heating this, and keeping up the temperature named, what was the outlay? Why, not more than £1. And of what did the fuel consist, and how much? The answer is, one and a half chaldron of coke breeze supplied me by the gas company here at 8s. per chaldron delivered to my house (I could get it for 6s. per chaldron were I to send to their yard for it), and allowing for wood and a sprinkling of coal wherewith to speedily light the fires, I make up at the very outside 20s.,—a saving of nearly two-thirds on the outlay of "RESPICE FINEM."

Now, it is not only the cheap and at the same time excellent fuel so obtained which brings about so small an outlay. The secret in economising is also to be found, to a great extent, in the attention and care bestowed on the firing and the regulating of the damper in the chimney. In my case I take care that the furnace is well cleared every morning of all cinders and ashes, thus causing a free draught, and the throwing away of all clinkers, to make which breeze has a great tendency; and if they remain to be used again with the fuel for fresh fires the latter will be deadened and the flue not properly heated, no matter how much the fire may be stirred up. In starting the fires let the damper be drawn out as much as possible, but when well up the furnace may be filled with fuel and the damper closed to within 1½ to 2 inches (enough for the escape of all smoke), thus retaining all the heat within for the purpose for which the same is required. As to the fuel itself, there is none in my opinion to equal the breeze either for its cheapness or good qualities. I do not mean to use anything else, and I think I may safely say to all whom it may concern, it is the cheapest and the best fuel for all lovers of flowers to use who have places to grow them in other than the garden during the few summer months with which we are now favoured.

My house is only now one year old; my experience in it is therefore short, but it has been of a practical nature, and I will on some future occasion render an account thereof. It may interest some of my fellow readers of these pages who like myself are but amateurs.—L. HAKEMAN, *Bromley, Kent.*

NEW FANCY PANSIES AT PINK HILL.

WHEN visiting Edinburgh some time ago I had the pleasure of a "look round" the Pink Hill Nursery, and of enjoying a hearty shake of the hand with one of the heartiest of florists—John Downie. I observed many "good things" there—flowers which to my mind have something more sterling and satisfying about them than Geraniums, Calceolarias, and Golden Feather—such plants as Pentstemons, Phloxes, and Pansies.

Nothing attracted my attention at Pink Hill more than the seedling beds of fancy Pansies. They were growing with the luxuriance of Watercress, and flowering with the profusion—well, of Violas. And such flowers! The size and substance of some of them, together with their bold quaintness and marvellous variation of colour, are not soon to be forgotten. Why are not these beautiful flowers more generally grown? "Oh!" someone may possibly reply, "they are northern flowers and do not flourish in the sunny south." To this my reply is that I have grown them three hundred miles south of Edinburgh, and this not on the moist west, but on the drier east coast, and have found them capable of yielding much pleasure to the owner, attracting a large share of attention from visitors, and recommending themselves as worthy of being taken away in the form of "a few cuttings" by all who had the luck to obtain them. The truth is they will grow and flower as well in the south as in the north, but not so long; long enough, however, quite long enough, to be worthy of their room and

cost, and to give other flowers an opportunity of having their "turn" of appreciation.

Fancy Pansies are the most free in growth of all the types of Violas and the most gorgeous in colour—gorgeous but not gaudy, for many of them are extremely chaste. They like a generous soil and cool: afford them this, and the protection also of a few pegs or sticks to prevent them being broken by the wind, and they will give an ample return in any county in the three kingdoms. The great point to attend to is to plant them early. If very choice they should be wintered in pots in a cold—quite cold—frame, and be planted out on the advent of genial weather in spring. Late spring planting is a fertile cause of Pansy failures.

Since inspecting the striking beds of seedlings the work of selection has been going on, and the following varieties have been named as worthy of heading the list in the class to which they belong—the latest and the best of their tribe.

Mr. Jamieson.—Rich golden yellow; the finest of its class that has yet been raised. It has won three first-class certificates.

Mrs. Scott Plummer.—Bronze and yellow, with a large crimson-maroon blotch. A splendid variety, having been twice certificated.

Mina.—Pure white and purple, clearly and charmingly laced.

Mr. Comfort.—Deep rich bronze with a bright yellow eye.

John Beveridge.—Bronze lilac shaded with blue; of excellent form and attractive.

Iago.—Yellow, slightly edged with white; novel and chaste.

Mrs. Forbes.—Creamy yellow; upper petals rosy crimson.

Mr. A. Douglas.—Pure white, of fine form and good substance; very chaste.

Such are the cream of the Fancy Pansies at Pink Hill—Mr. Downie's "latest out," and particularly worthy of "honourable mention." I have a few other new flowers in my pocket book, but they must remain there for the present.—NOMAD.

VEITCH'S NEW SELF-PROTECTING AUTUMN BROCCOLI.

THE Autumn Giant Cauliflower is now nearly over, but it will not be much missed, as we have several patches of the new Broccoli just beginning to turn in. When growing the leaves of the Broccoli are more twisted over the flower than those of the Cauliflower, consequently it is better protected. The seed from which the plants were raised that are now producing heads was sown on the 16th of March, and the plants were transferred from the seed bed to their present quarters on June 6th. I send you a specimen, which I think you will say surpasses Messrs. Veitch's catalogue illustration of it. I did not expect it became so handsome.—J. MUIR, *Margam Park.*

[The Broccoli sent is extremely fine and well protected with foliage, and, as you say, "surpasses the illustration" of it.—EDS.]

THE ROSE ELECTION.—No. 5.

NURSERYMEN'S VOTES.

THE Roses in the following returns are placed in the order of merit—namely, the first best twelve, the second best twelve, and the third best twenty-four varieties, except where otherwise expressed.

Mr. CURTIS, Devon Rosery, Torquay.

Best forty-eight exhibition Roses, approximating to their order of merit as grown in Devonshire.

- | | |
|---------------------------|-----------------------------|
| 1. Maréchal Niel | 7. Charles Lefebvre |
| 2. Baronne de Rothschild | 8. François Michelin |
| 3. Alfred Colomb | 9. Louis Van Houtte |
| 4. Devoniensis | 10. Catherine Mermet |
| 5. Marie Baumann | 11. Ferdinand de Lesseps |
| 6. La France | 12. Marquise de Castellane |
| 13. Etienne Levet | 19. Mary Raby |
| 14. Niphetos | 20. Souvenir d'Elise |
| 15. Camille Bernardin | 21. Duke of Edinburgh |
| 16. Marie Finger | 22. Marguerite de St. Amand |
| 17. Madame Victor Verdier | 23. Comtesse d'Oxford |
| 18. Souvenir d'un Ami | 24. Monsieur E. Y. Teas |
| 25. Marie Van Houtte | 27. Dupuy-Jamain |
| 26. Dr. Andry | 28. Beauty of Waltham |
| 27. Mlle. Eugénie Verdier | 29. Princess Beatrice |
| 28. John Hopper | 40. Comtesse de Serenye |
| 29. Victor Verdier | 41. Antoine Ducher |
| 30. Pierre Notting | 42. Duchesse de Vallombrosa |
| 31. Scatateur Vaissee | 43. Madame C. Joigneaux |
| 32. Lelia | 44. Annie Wood |
| 33. Madame C. Wood | 45. Duke of Wellington |
| 34. Horace Vernet | 46. Sir Garnet Wolseley |
| 35. Reynolds Hole | 47. Miss Hassard |
| 36. Star of Waltham | 48. Prince Camille de Rohan |

Mr. GEORGE COOLING, *Bath.*

1. Charles Lefebvre
2. Alfred Colomb
3. Maréchal Niel
4. Marie Baumann
5. La France
6. François Michelin
13. Etienne Levet
14. Marquise de Castellane
15. Général Jacqueminot
16. Souvenir d'un Ami
17. Camille Bernardin
18. Duchesse de Vallombrosa
25. Mlle. Marie Rady
26. Niphotos
27. Annie Wood
28. Capitaine Lamure
29. Baron de Bonstetten
30. Sir Garnet Wolseley
31. Catherine Mermet
32. Mrs. Baker
33. Ferdinand de Lesseps
34. Monsieur E. Y. Teas
35. Jean Liabaud
36. Dr. Andry
7. Duke of Edinburgh
8. Madame Victor Verdier
9. Louis Van Houtte
10. Comtesse d'Oxford
11. Sénateur Vaisse
12. Baronne de Rothschild
19. John Hopper
20. Mlle. Eugénie Verdier
21. Devoniensis
22. Horace Vernet
23. Xavier Olibo
24. Dupuy-Jamain
37. Gloire de Dijon
38. Reynolds Hole
39. Madame Lacharme
40. Marguerite Brassac
41. Capitaine Christy
42. Princess Mary of Cambridge
43. Louise Peyronny
44. Star of Waltham
45. La Rosière
46. Belle Lyonnaise
47. Fisher Holmes
48. Edward Morren

Mr. CORP, *Oxford.*

1. Maréchal Niel
2. Marie Baumann
3. Alfred Colomb
4. Charles Lefebvre
5. Devienne Lamy
6. La France
13. Marguerite Brassac
14. Marie Rady
15. Star of Waltham
16. Catherine Mermet
17. François Michelin
18. Horace Vernet
25. Annie Wood
26. Hippolyte Jamain
27. Marguerite de St. Amand
28. Marie Van Houtte
29. Xavier Olibo
30. Monsieur E. Y. Teas
31. Dr. Andry
32. Camille Bernardin
33. Duke of Edinburgh
34. Emilie Hausburg
35. Mlle. Thérèse Levett
36. Madame H. Jamain
7. Baronne de Rothschild
8. Comtesse de Serenye
9. Etienne Levet
10. Madame Victor Verdier
11. Louise Van Houtte
12. Sénateur Vaisse
19. Madame C. Wood
20. Devoniensis
21. Pierre Notting
22. Marquise de Castellane
23. Edward Morren
24. Marie Cointet
37. Jean Ducher
38. Reynolds Hole
39. Comtesse d'Oxford
40. Ferdinand de Lesseps
41. Jean Liabaud
42. Miss Hassard
43. Royal Standard
44. Rev. J. B. M. Camm
45. Sir G. Wolseley
46. Princess Beatrice
47. Le Havre
48. Duc de Montpensier

Mr. G. PRINCE, *Oxford.*

1. Maréchal Niel
2. Marie Baumann
3. Alfred Colomb
4. Charles Lefebvre
5. Duchesse de Vallombrosa
6. François Michelin
13. La France
14. Madame V. Verdier
15. Camille Bernardin
16. Marie Rady
17. Marquise de Castellane
18. Marguerite de St. Amand
25. Madame Lacharme
26. Horace Vernet
27. Catherine Mermet
28. John Hopper
29. Reynolds Hole
30. Monsieur Noman
31. Mlle. M. Finger
32. Capitaine Christy
33. Ferdinand de Lesseps
34. Rev. J. B. M. Camm
35. Xavier Olibo
36. Hippolyte Jamain
7. Baronne de Rothschild
8. Louis Van Houtte
9. Emilie Hausburg
10. Comtesse de Serenye
11. Etienne Levet
12. Jean Liabaud
19. Duke of Edinburgh
20. Souvenir d'Elise Vardon
21. Sénateur Vaisse
22. Monsieur E. Y. Teas
23. Edward Morren
24. Comtesse d'Oxford
37. Duchesse de Morny
38. Anguste Rigotard
39. Dupuy-Jamain
40. Pierre Notting
41. Dr. Andry
42. Jean Ducher
43. Duchesse de Caylus
44. Mlle. M. Cointet
45. Devoniensis
46. Prince Camille de Rohan
47. Devienne Lamy
48. Fisher Holmes

Mr. B. R. CANT, *Colchester.*

1. Maréchal Niel
2. Marie Baumann
3. Charles Lefebvre
4. Baronne de Rothschild
5. Alfred Colomb
6. La France
7. François Michelin
8. Etienne Levet
9. Souvenir d'Elise
10. Devoniensis
11. Ferdinand de Lesseps
12. Marguerite de St. Amand

In making out this list regard has been taken to have a good variety of colour: no stand in my opinion is satisfactory unless this is studied. I was very near putting out La France on this account, because it resembles Baronne de Rothschild too much for a twelve; had I done so Comtesse d'Oxford would have taken its place.

13. Comtesse d'Oxford
14. Louis Van Houtte
15. Emilie Hausburg
16. Horace Vernet
17. Madame Marie Finger
18. Duc de Wellington
25. Niphotos
26. Xavier Olibo
27. Madame Victor Verdier
28. Madame Charles Wood
29. Fisher Holmes
30. François Louvat
19. Maurice Bernardin
20. Marquise de Castellane
21. Monsieur Noman
22. Duke of Edinburgh
23. Marie Rady
24. Duchesse de Vallombrosa
31. Dr. Andry
32. Elie Morel
33. Marie Van Houtte
34. Rubens
35. Souvenir d'un Ami
36. Gloire de Vitry

37. Madame Prosper Langier
38. Catherine Mermet
39. John Hopper
40. Dupuy-Jamain
41. Madame Hippolyte Jamain
42. Pierre Notting

Mr. H. MERRYWEATHER, *Southwell, Notts.*

1. Maréchal Niel
2. Alfred Colomb
3. Charles Lefebvre
4. Marie Baumann
5. Etienne Levet
6. La France
13. Souvenir d'Elise
14. Sénateur Vaisse
15. Madame Victor Verdier
16. Catherine Mermet
17. Mlle. Marie Rady
18. Madame H. Jamain
25. Dupuy-Jamain
26. Princess Mary of Cambridge
27. Thomas Mills
28. Devoniensis
29. Horace Vernet
30. Emilie Hausburg
31. Anna Olivier
32. Sir G. Wolseley
33. Edward Morren
34. Marguerite Brassac
35. Souvenir d'un Ami
36. Monsieur Boncenne
7. Baronne de Rothschild
8. François Michelin
9. Duchesse de Vallombrosa
10. Dr. Andry
11. Mlle. Marie Finger
12. Louis Van Houtte
19. Star of Waltham
20. Marguerite de St. Amand
21. Comtesse d'Oxford
22. Marquise de Castellane
23. Capitaine Christy
24. Camille Bernardin
37. Miss Hassard
38. Fisher Holmes
39. Chechunt Hybrid
40. Comtesse de Paris
41. Gloire de Dijon
42. Anguste Rigotard
43. Madame Willermoz
44. Reynolds Hole
45. Felix Genere
46. La Rosière
47. Marie Van Houtte
48. Madame C. Joigneaux

Mr. PIER, *Uckfield.*

1. Charles Lefebvre
2. Alfred Colomb
3. Etienne Levet
4. Emilie Hausburg
5. Marquise de Castellane
6. Maréchal Niel
13. Victor Verdier
14. Dr. Andry
15. Hippolyte Jamain
16. Elie Morel
17. Marie Cointet
18. Marie Baumann
25. Paul Neyron
26. Edward Morren
27. Annie Laxton
28. Sénateur Vaisse
29. Comtesse d'Oxford
30. Mlle. Marie Rady
31. Paul Verdier
32. Souvenir d'un Ami
33. Niphotos
34. Devoniensis
35. Madame Hippolyte Jamain
36. Duke of Edinburgh
7. Mlle. Marie Finger
8. François Michelin
9. La France
10. Monsieur Noman
11. Baronne de Rothschild
12. Duchesse de Vallombrosa
13. Souvenir d'Elise
20. Star of Waltham
21. Annie Wood
22. Marguerite de St. Amand
23. Beauty of Waltham
24. Royal Standard
37. Madame Prosper Langier
38. Princess Mary of Cambridge
39. Catherine Mermet
40. Louis Van Houtte
41. Duke of Connaught
42. Madame Victor Verdier
43. Monsieur E. Y. Teas
44. Sir Garnet Wolseley
45. Thomas Mills
46. Pierre Notting
47. Abel Carrière
48. Le Havre

MITCHELL & SONS, *Pittdown, Uckfield.*

Not in order of merit.

1. Alfred Colomb
2. Baronne de Rothschild
3. Charles Lefebvre
4. Duke of Edinburgh
5. François Michelin
6. La France
13. Comtesse d'Oxford
14. Ferdinand de Lesseps
15. Louis Van Houtte
16. Madame Victor Verdier
17. Mlle. Marie Cointet
18. Marquise de Castellane
25. Abel Grand
26. Capitaine Christy
27. Dr. Andry
28. Duc de Wellington
29. Fisher Holmes
30. Horace Vernet
31. Baron Hausmann
32. Lord Macaulay
33. Madame Charles Wood
34. Madame Fillion
35. Mlle. Marie Rady
36. Mlle. Thérèse Levett
7. Mlle. Eugénie Verdier
8. Marie Baumann
9. Catherine Mermet
10. Joséphine Malton
11. Maréchal Niel
12. Souvenir d'Elise Vardon
19. Sir Garnet Wolseley
20. Victor Verdier
21. Devoniensis
22. Jean Pernet
23. Madame Margottin
24. Souvenir d'un Ami
37. Marguerite de St. Amand
38. Napoleon III.
39. Pierre Notting
40. Princess Mary of Cambridge
41. Prince Camille de Rohan
42. Sénateur Vaisse
43. Ville de Lyon
44. Xavier Olibo
45. Duc de Magenta
46. Madame Willermoz
47. Marie Van Houtte
48. Souvenir de Paul Neyron

Mr. T. BUNYARD, *Ashford.*

1. Marie Baumann
2. Alfred Colomb
3. François Michelin
4. John Hopper
5. Maréchal Niel
6. Duke of Edinburgh
13. Charles Lefebvre
14. Baronne de Rothschild
15. Sénateur Vaisse
16. Dr. Andry
17. Louise Van Houtte
18. Pierre Notting
25. Victor Verdier
26. Gloire de Dijon
27. Comtesse de Chabrillant
7. La France
8. Madame Victor Verdier
9. Mlle. Eugénie Verdier
10. Marquise de Castellane
11. Comtesse d'Oxford
12. Xavier Olibo
19. Marie Rady
20. Prince Camille de Rohan
21. Reynolds Hole
22. Dupuy-Jamain
23. Emilie Hausburg
24. Marguerite de St. Amand
28. Comtesse de Serenye
29. Abel Carrière
30. Etienne Levett

31. Fisher Holmes
32. Madame C. Crapelet
33. Lord Macaulay
34. Madame Lacharme
35. Marguerite Dombain
36. Maurice Bernardin
37. Vicomte Vigier
38. La Ville de St. Denis
39. Madame Marius Côté

40. Olivier Delhomme
41. Capitaine Christy
42. Abel Grand
43. Anna de Diesbach
44. Edward Morren
45. Lyonnais
46. Annie Wood
47. Claude Levat
48. Monsieur Noman

Mr. H. MAY, *Bedale, Yorkshire.*

1. Maréchal Niel
2. Marchioness of Exeter
3. Duchesse de Vallombrosa
4. Comtesse de Serenye
5. Charles Lefebvre
6. La France
13. Madame Victor Verdier
14. Camille Bernardin
15. Louis Van Houtte
16. Marie Baumann
17. Princess Beatrice
18. Comtesse d'Oxford
25. Madame Hunnebell
26. Hippolyte Jamain
27. Emilie Hausburg
28. Dupuy-Jamain
29. Edward Morren
30. Marie Finger
31. Madame Lacharme
32. Monsieur Noman
33. Princess Mary of Cambridge
34. Prince Camille de Rohan
35. Alfred Colomb
36. Madame Willermoz

7. Star of Waltham
8. Emily Laxton
9. François Michelin
10. Etienne Levat
11. Duke of Edinburgh
12. Royal Standard

19. Capitaine Christy
20. Antoine Ducher
21. Gloire de Dijon
22. Monsieur E. Y. Teas
23. Ferdinand de Lesseps
24. Centifolia rosea
37. Devoniensis
38. Sombreuil
39. Baronne Louise Uxkull
40. Duchesse d'Aoste
41. Exposition de Brie
42. Eugénie Verdier
43. Marguerite de St. Amand
44. Marie Rady
45. Marquise de Mortemart
46. Mrs. Baker
47. Sir Garnet Wolseley
48. Xavier Olibo

Mr. C. TURNER, *Slough.*

1. Marie Baumann
2. Maréchal Niel
3. Devienne Lamy
4. François Michelin
5. Devoniensis
6. Alfred Colomb
13. Ferdinand de Lesseps
14. Souvenir d'Elise
15. Miss Hassard
16. Catherine Mermet
17. Star of Waltham
18. Horace Vernet
25. Duke of Edinburgh
26. Avocat Duvivier
27. Duchesse de Vallombrosa
28. Madame Willermoz
29. Sir Garnet Wolseley
30. Marguerite de St. Amand
31. Camille Bernardin
32. Abel Grand
33. Baron de Bonstetten
34. Marquise de Castellane
35. Princess Beatrice
36. Rev. J. B. M. Camm

7. Charles Lefebvre
8. Niphetos
9. La France
10. Monsieur E. Y. Teas
11. Etienne Levat
12. Baronne de Rothschild

19. Emily Laxton
20. La Rosière
21. Sénateur Vaisse
22. Xavier Olibo
23. Madame Lacharme
24. Monsieur Noman
37. Souvenir de la Malmaison
38. Madame Victor Verdier
39. Louis Van Houtte
40. Marie Van Houtte
41. Royal Standard
42. Annie Laxton
43. Sultan of Zanzibar
44. Oxonian
45. Madame Hippolyte Jamain
46. Comtesse d'Oxford
47. Mlle. Eugénie Verdier
48. Edward Morren

Mr. DAVISON, *Hereford.*

1. Maréchal Niel
2. Alfred Colomb
3. Marie Baumann
4. François Michelin
5. Horace Vernet
6. Mlle. Marie Rady
13. Annie Laxton
14. Baronne de Rothschild
15. Charles Lefebvre
16. Comtesse de Serenye
17. Duke of Edinburgh
18. Duke of Wellington

7. Mlle. Marie Cointet
8. Reynolds Hole
9. Marie Van Houtte
10. Madame Charles Wood
11. La France
12. Etienne Levat

19. Fisher Holmes
20. Madame Victor Verdier
21. Mlle. Eugénie Verdier
22. Monsieur Noman
23. Xavier Olibo
24. Catherine Mermet
37. Auguste Rigotard
38. Lord Macaulay
39. Marguerite de St. Amand
40. Monsieur Claude Levat
41. Sir Garnet Wolseley
42. Star of Waltham
43. Devoniensis
44. Souvenir d'un Ami
45. Dupuy-Jamain
46. La Duchesse de Morny
47. Marguerite Erassac
48. Madame Charles Crapelet

Mr. WALTERS, *Exeter.*

1. Alfred Colomb
2. Maréchal Niel
3. Charles Lefebvre
4. Marie Baumann
5. Madame de Rothschild
6. Marquise de Castellane
13. John Hopper
14. Devoniensis
15. Xavier Olibo
16. Comtesse d'Oxford
17. Etienne Levat
18. Madame Victor Verdier

7. Louis Van Houtte
8. La France
9. François Michelin
10. Dr. Andry
11. Duke of Edinburgh
12. Ferdinand de Lesseps
19. Souvenir d'un Ami
20. Marguerite de St. Amand
21. Sénateur Vaisse
22. Niphetos
23. Camille Bernardin
24. Mlle. Eugénie Verdier

25. Mlle. Marie Rady
26. Souvenir d'Elise
27. Mlle. Marie Cointet
28. Prince Camille de Rohan
29. Madame Charles Wood
30. Catherine Mermet
31. Monsieur Noman
32. Lord Macaulay
33. Horace Vernet
34. Abel Grand
35. Marquise de Mortemart
36. Monsieur E. Y. Teas

37. Pierre Notting
38. Beauty of Waltham
39. Emilie Hausburg
40. Duke of Wellington
41. Victor Verdier
42. Marie Van Houtte
43. Mlle. Annie Wood
44. Madame Lacharme
45. Fisher Holmes
46. Capitaine Christy
47. Edward Morren
48. Dupuy-Jamain

LUCOMBE, PINCE & Co., *Exeter.*

1. Devoniensis
2. Niphetos
3. Maréchal Niel
4. La France
5. Baronne de Rothschild
6. Alfred Colomb

13. Edward Morren
14. Marie Van Houtte
15. Ferdinand de Lesseps
16. Dr. Andry
17. Horace Vernet
18. Etienne Levat
25. Annie Wood
26. John Hopper
27. Camille Bernardin
28. Sénateur Vaisse
29. Victor Verdier
30. Souvenir de la Malmaison
31. Jules Margottin
32. Capitaine Christy
33. Charles Rouillard
34. Comtesse Cécile de Chabillant
35. Exposition de Brie
36. Felix Genero

7. Duke of Edinburgh
8. Charles Lefebvre
9. Comtesse d'Oxford
10. François Michelin
11. Fisher Holmes
12. Marie Baumann
19. Madame Lacharme
20. Comtesse de Serenye
21. Dupuy-Jamain
22. Annie Laxton
23. Hippolyte Jamain
24. Cheshunt Hybrid
37. Mlle. Eugénie Verdier
38. Mlle. Marguerite Dombain
39. Pierre Notting
40. Prince Camille de Rohan
41. Reynolds Hole
42. Gloire de Dijon
43. Emilie Hausburg
44. Xavier Olibo
45. Bessie Johnson
46. Princess Mary of Cambridge
47. Mlle. Bonnaire
48. Duke of Wellington

I had thought that the ultimate result of the poll, I mean the best forty-eight, might be compared with some degree of interest with the best forty-eight selected by a rosarian across the Atlantic. Accordingly I wrote to Mr. Ellwanger of Mount Hope Nurseries, Rochester, New York, to whom those who have been desirous of seeing the age of Roses and the raisers' names are, as well as myself, very deeply indebted; and I now place side by side his forty-eight in order of merit and the collective election forty-eight:—

The Election List.

1. Marie Baumann
2. Alfred Colomb
3. Charles Lefebvre
4. La France
5. Maréchal Niel
6. Baronne de Rothschild
7. François Michelin
8. Louis Van Houtte
9. Etienne Levat
10. Marquise de Castellane
11. Madame Victor Verdier
12. Duke of Edinburgh
13. Marie Rady
14. Comtesse d'Oxford
15. Dr. Andry
16. Sénateur Vaisse
17. Xavier Olibo
18. Mlle. Eugénie Verdier
19. Edward Morren
20. Catherine Mermet
21. Horace Vernet
22. Marguerite de St. Amand
23. Emilie Hausburg
24. Ferdinand de Lesseps
25. Dupuy-Jamain
26. Camille Bernardin
27. John Hopper
28. Reynolds Hole
29. Victor Verdier
30. Prince Camille de Rohan
31. Marie Van Houtte
32. Capitaine Christy
33. Madame Lacharme
34. Devoniensis
35. Mons. E. Y. Teas
36. Duke of Wellington
37. Souvenir d'un Ami
38. Pierre Notting
39. Souvenir d'Elise
40. Marie Finger
41. Marie Cointet
42. Fisher Holmes
43. Mons. Noman
44. Comtesse de Serenye
45. Sir G. Wolseley
46. Madame G. Wood
47. Star of Waltham
48. Annie Wood

Mr. Ellwanger's List.

1. La France
2. Maréchal Niel
3. Marie Baumann
4. Louis Van Houtte
5. Alfred Colomb
6. Charles Lefebvre
7. Catherine Mermet
8. Marie Van Houtte
9. Madame Victor Verdier
10. Marie Rady
11. François Michelin
12. Marquise de Castellane
13. Baronne de Rothschild
14. Etienne Levat
15. Eugénie Verdier
16. John Hopper
17. Abel Grand
18. Comtesse d'Oxford
19. Sénateur Vaisse
20. Victor Verdier
21. Gloire de Dijon
22. Comte de Samba, T.
23. Capitaine Christy
24. Niphetos
25. Cheshunt Hybrid
26. Prince Camille de Rohan
27. Comtesse de Serenye
28. Marie Cointet
29. Rubens
30. Belle Lyonnaise
31. Cécile de Chabillant
32. Marguerite de St. Amand
33. Madame de Rüdiger
34. Thérèse Levat
35. Horace Vernet
36. Exposition de Brie
37. Souvenir de la Malmaison
38. Marie Ducher
39. Fisher Holmes
40. Pierre Notting
41. General Washington
42. Madame Noman
43. Mlle. Bonnaire
44. Madame Berard
45. Madame Trife
46. Maurice Bernardin
47. Reynolds Hole
48. Marie Finger

Mr. Ellwanger's list is placed in order of merit, and it will be seen that in his selected forty-eight he has named twenty-

nine of those selected by the various electors. His list, as compared with ours, is chiefly remarkable for the Tea element, for counting *Maréchal Neil* there are eleven as against six in our list. Mr. Ellwanger further adds that he has bracketed Charles Lefebvre and Ferdinand de Lesseps, because, "though not the same," they "at many times strongly resemble each other, and I couple them as being of equal value." He also further adds—and the remark is of interest, touching the effect of climate on different yet similar Roses—"In relation to *Mdlle. Eugénie Verdier* and *Marie Finger* I would say they are with us quite distinct sorts; the former I consider decidedly the more refined and beautiful."

Here let me close the first exhibition Rose election. It will be a fair guide to the general public. In closing it I again desire to express my sincere thanks to those who have assisted me by voting papers; to several, unknown to me save through the pages of "our Journal," I desire to acknowledge very gratefully their private letters of thanks to me. I apologise to them for my seeming neglect in not doing so on receipt of the same; but time, not the will, fails me. Again sincerely thanking all, I close the election of 1877.—JOSEPH HINTON, *Warminster*.

LODDINGTON SEEDLING APPLE.

Synonyme, Stone's Apple.

AN Apple was lately exhibited before the Fruit Committee of the Royal Horticultural Society by Mr. Killick of Langley near Maidstone, under the name of *Stone's Apple*, and which was awarded a first-class certificate. The original tree was discovered on the farm of Mr. Stone at Loddington, about five miles from Maidstone, and its great merit as an orchard fruit caused it to be propagated in the immediate neighbourhood; but till within the last few years it has not been known out of

and prominently plaited or ribbed basin. Stalk half an inch to three-quarters long, slender for the size of the fruit, and inserted in a deep, wide, funnel-shaped cavity, which is lined with pale ashy russet extending over the base of the fruit. Flesh very tender, and with a pleasant subacid flavour.

This is an early culinary Apple of great excellence, coming into use in September.

The following communication was received from Mr. Killick:—"I have carefully examined the tree from which this sort originated. It is in the parish of Maidstone, but five miles off, at Loddington, a hamlet in connection with that parish. My authority for its history is a man who has had charge of the farm for twenty-two years. He tells me that at that time it was as large as it is at present, and has borne every year since. His old master did not remember it being planted, and that would carry it thirty years more. The tree is not a large one, and many sorts at twenty years would occupy as much space. The diameter of the head would be about 15 feet, and the circumference of the stem about 3 feet 6 inches. Every original graft in this district was taken from that tree, and its growth is entirely confined to this district. The tree when first planted makes a good start for the first few years, and then goes into bearing, and very rarely increases much in size. It is, therefore, very suitable for small gardens. I have some trees of this kind that for eight years have not increased in size but have cropped every year. I should recommend it planted thickly for growing for profit, and to put in an odd corner for every grower of the Apple."

PRUNING AND RENOVATING CONIFERS.

"A COUNTRY VICAR" asks for advice about pruning Conifers and the treatment of an unhealthy *Picea Pinsapo*. The subject is one of importance, for serious mischief has frequently arisen through ignorance in both these matters.

Of the *Picea* it is stated that it was an exceedingly symmetrical specimen with very dense branches. Some years ago its leader was killed by frost, and it has since then deteriorated, losing many of its interior branchlets, and it has now three leaders. How shall we treat this tree in order to reclaim it from its sickly condition, and impart vigour and symmetry to it once more? Fasten a stout pole to the stem, pulling the best leading shoot as near to it as is possible, securing it firmly in that central position, cutting off the other two shoots, and cutting nothing else, for depend upon it no pruning ever brought back health to a sickly Conifer. It is the roots that are at fault, and this is the point to which I wish to draw especial attention. Conifers have been planted anywhere and everywhere. If the soil was thought unsuitable, stations of prepared soil have been made, the trees planted, and all has gone well till the roots have exhausted the nutriment of the good soil; then, if matters are left to chance, deterioration follows, the growth becoming stunted, the interior branchlets dying and falling off till the tree becomes so thin that, as "COUNTRY VICAR" says of

his *Picea*, we can see the light through it. The remedy is as simple as it is sure. Give the roots more good soil, see that there is no risk of any accumulation of stagnant water about them, and a couple of seasons' growth will restore the lost clothing of branchlets and free strong leading shoots. The best way to apply fresh soil is by surface-dressing and excavating a wide trench for its reception in a circle around the station, and there cannot be a better time than the present for doing it. I must confess to a feeling of surprise at *Picea Pinsapo* losing its leader from frost. *P. Cephalonica*, which it much resembles, often does this, but *Pinsapo* is so hardy as never in my experience to be so affected.

Pruning Conifers is altogether a mistake. If the side branches ever show a tendency to spread at the expense of the leader, simply nipping off the tips tends to check them sufficiently. The growth of almost all of them is naturally so symmetrical that no improvement can be effected by pruning—rather the reverse. I have for the last seven years

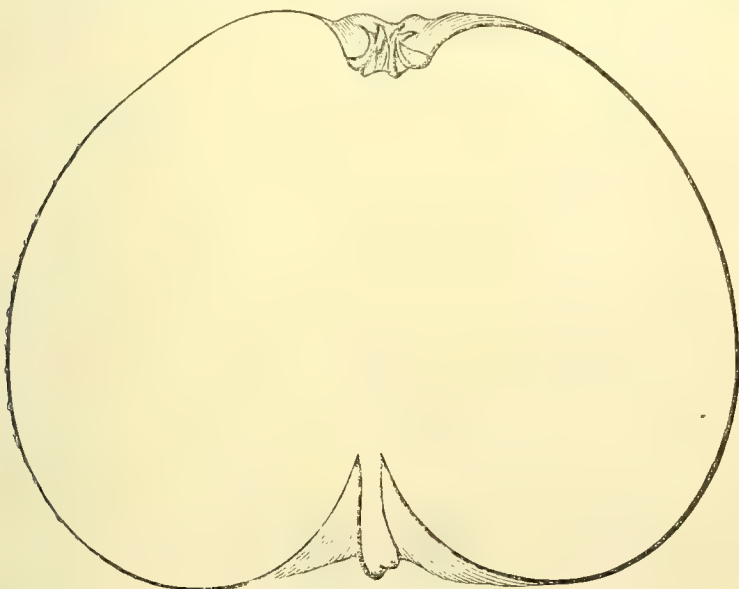


Fig. 68.—Loddington Seedling.

its own neighbourhood. Now, however, it is to be found in some of the orchards of the adjoining parishes, and its cultivation is becoming more and more extended. Its great merit is the early bearing quality of the tree, the great size and earliness of the fruit, and its excellence as a culinary market variety. The habit of the tree is medium-sized and compact. It does not produce long rampant shoots; but, on the contrary, when it has come into full bearing it produces little wood, but keeps on forming an abundance of spurs.

Fruit large, varying from 3 to 3½ inches in diameter; roundish, slightly flattened and narrowing abruptly towards the eye; it has obtuse ribs on the sides, which become more distinct towards the eye, where they form ridges round the crown. Skin smooth and shining, grass-green at first, with a brownish cheek; but after being gathered it becomes a fine lemon yellow, with a pale crimson cheek, marked with broken streaks of dark crimson; the surface is strewed with minute russet points. Eye closed, with convergent leaf-like segments, set in a deep

watched the rapid progress of two magnificent specimens of *Cupressus macrocarpa* growing in a small roadside garden at Maresfield, which I occasionally pass, and great was my astonishment and regret last spring to find that some "improver" had pruned one of them from bottom to top, shortening all the branches by about one-third, and for the time quite spoiling its appearance. It has, however, made a vigorous growth this season, but it will require two or three years to recover its full beauty, and no permanent harm is likely to follow this rude treatment. Such is not always the case, and the experiment is a very dangerous one, for the wounds, especially of large branches, usually bleed so long that the health of the tree is seriously affected, and it does little, if any, good afterwards.—EDWARD LUCKHURST.

NEW ROSES.

At this season of the year, when amateurs are looking round their gardens and planting new Rose beds and filling-up gaps in old beds, the following remarks on a few of the more recent additions to the Rose world may be useful. I think all growers will agree with the remark that the latest novelties are nothing very startling; however, let me commence.

Auguste Rigotard, somewhat in the way of Alfred Colomb but duller in colour, yet a better grower, is decidedly worth buying.

Capitaine Christy has been very fine this season, has not quite shape enough, but is a very showy Rose; it is just what one would imagine a cross of La France and Baronne de Rothschild would produce, having at times a wonderful resemblance to each.

Comtesse de Serenye has established itself as a first-class flesh-coloured Rose, large compact form, of splendid shape, good grower, and is a real improvement.

Hippolyte Jamin is a round-shaped Victor Verdier, a strong grower (as are all this class), free bloomer, and altogether good.

Monsieur E. Y. Teas is perfect as to shape, but a wretched grower; very good if taken great care of.

Abel Carrière is truly grand, being a fine-shaped dark Rose in the way of Baronne de Bonstetten, more of a claret colour and much larger, and should be in every collection. Jean Liabaud and Jean Soupert are the same class, the latter is too small. Abel Carrière is decidedly the best of the three.

The much-vaunted Duchesse de Vallombrosa seems to me a rank impostor; it is a dull sort of flesh-colour, having none of that beautiful gloss seen in such Roses as Baronne de Rothschild. I cannot see the good of having this Rose when one can grow the Baronesse and La France.

Duke of Connaught is a red Lord Clyde, but of much finer shape, very vivid, first-rate grower, and a real improvement.

John Stuart Mill is good; more fit for garden purposes than exhibition.

Sir Garnet Wolseley, one of the Maurice Bernardin class, is of great merit.

Mdlle. Prosper Langier is too flat, but fine in colour.

The foliage of Star of Waltham is tremendous, the bloom seems ashamed of itself for having such leaves. The second flowers, however, opened better. It requires to be seen another season before expressing a decided opinion.

Sultan of Zanzibar has been this season small and ragged. I should say it will not make a mark. The reverse side of the petal is a dull red, and the slightest change in temperature causes it to fold inwards, which is anything but pleasing.

Cheshunt Hybrid holds its own right well; it is a capital grower, very free bloomer, and should be had by everyone.

Perle des Jardins is a grand deep yellow Tea, holding its blooms well up (a great consideration in Tea Roses); it gives one an idea of Maréchal Niel and Madame Falcot mixed. It is one of the finest Roses lately introduced.

Perle de Lyon, in the same way but much smaller, is also of great merit.

Jean Ducher, another first-class Tea, has the same vigorous erect growth as the two last named. In colour it resembles Adrienne Christophe, but is a much better grower.

Marie Guillot is a splendid pure white, like Niphetos only rounder and better held together; this is certificate enough for any Rose.

Emily Laxton is very like Marquise de Castellane, but bolder in petal. Although first-rate in the half-open state I cannot see that it is much of an advance.

Marchioness of Exeter is somewhat similar, rounder, and much smaller. I should say if grown by average amateurs that it would be a failure.

John Bright, very bright, but nothing else, as it is very thin.

It seems to me from personal observation this season that of late only three first-rate Roses have been added to the list—viz., Duke of Connaught, Perle des Jardins, and Abel Carrière.

If amateurs would only compare notes a little more, and form opinions of their own instead of taking everything from catalogues, we should never see gardens filled with Roses that are good only in price, and doomed to disappear altogether after a season or two. If Roses are worth growing they are surely worth growing well; and I ask, How is it that amateurs will go taking down names at exhibitions instead of trying to see the plants growing? Speaking personally, I know that an afternoon spent at a Rose nursery has often saved me a season's unhappiness.—AN OLD ROSE-GROWER.

ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 6TH.

A dull day but by no means a dull meeting has to be recorded. The rain poured steadily down, but did not deter horticulturists from attending, for the company was good and the Council room was filled with excellent collections, including plants, cut flowers, fruit, and vegetables.

FRUIT COMMITTEE.—H. Webb, Esq., V.P., in the chair. Six Pine Apples, the united weight of which was 27½ lbs., were sent by Mr. J. Hudson, The Gardens, Gunnersbury House, Acton. They were excellent examples considering the time of the year, and a silver Banksian medal was voted for them by the Committee. A large Charlotte Rothschild Pine was sent by Mr. J. Dinsmore, gardener to J. F. Blackwell, Esq., The Cedars, Harrow Weald, but it was not in good condition.

Three very good bunches of Golden Hamburg Grape were sent by Mr. J. Hudson; they were in good condition, and received a cultural commendation. Two bunches of Muscat of Alexandria were sent by Mr. J. Atkins, gardener to Col. Loyd Lindsay, Lockinge Gardens, Wantage. The berries were large and beautifully finished, and the Committee voted that a bronze medal be awarded for them. Mr. W. Wildsmith, gardener to Lord Eversley, Heckfield, sent three bunches of Gros Colman; the berries were very large, but not quite so well finished as Mr. Wildsmith has shown them, yet they well deserved the cultural commendation awarded to them. Harrison Weir, Esq., Brenchley, Kent, sent very good examples of Muscat Champion from a ground vine, and a cultural commendation was awarded to them. Mr. Weir also sent a good dish of Mrs. Pince's Black Muscat.

A dish of Salway Peaches was sent by Mr. W. Tillery, The Gardens, Welbeck. They were good-looking examples, but rather over-ripe. A green-fleshed Melon named Exquisite was exhibited by Mr. C. Tyler, gardener to R. Gosling, Esq., Hassobury, Bishop Stortford. It was, considering the lateness of the season, of remarkably fine flavour. It received a first-class certificate. Mr. E. Bennett, The Nurseries, Rabley, sent a dish of Strawberry Garibaldi, for which a letter of thanks was directed to be sent. Mr. David Ward, florist, Wisbech, sent a seedling Pear of the Bergamot type, but it was not in good condition. As a rule Pears are not good this year. Mr. C. Penny, The Gardens, Sandringham, sent two dishes of seedling Apples, but they were not considered of special value. Mr. Douglas, Loxford Hall Gardens, exhibited Waldron's Seedling Apple, but it was not thought equal to existing sorts. Mr. Dancer, Chiswick, sent a good dish of Cox's Orange Pippin, for which the Committee awarded a vote of thanks. Barnack Beauty Apple from Mr. R. Gilbert of Burleigh, Stamford, was a fine-looking fruit but not of good flavour.

Mr. Gilbert also sent selected Brussels Sprouts on the stalk; the sprouts were certainly very fine and afforded evidence of superior culture. A letter of thanks was voted. Veitch's Autumn Cauliflower in fine condition came from Mr. T. B. Wilson, Claydon House Gardens, for which a vote of thanks was given. Mr. R. Dean of Ealing sent a specimen of the long ribbed Marrow, which was passed.

Messrs. Hooper & Co., Covent Garden, on behalf of Messrs. B. K. Bliss & Sons, New York, sent a collection of Potatoes, and from Mr. R. Dean came a small collection of new sorts, the skins well washed and polished. We think it is far better to show them more rough in the skins, as the character of the Potato cannot be determined when the skins are made so glossy. Messrs. James Carter & Co. exhibited an extensive and excellent collection of Potatoes, numbering about 150 varieties, every dish of which was in the best exhibition character. It was a highly meritorious display.

FLORAL COMMITTEE.—G. F. Wilson, Esq., F.R.S., in the chair. A beautiful group, including choice Orchids, Ferns, Sarracenias, Droseras, Zonal Pelargoniums, &c., was arranged by Messrs. Veitch, Royal Exotic Nursery, Chelsea. Amongst the Orchids we noticed *Cattleya labiata*, *Oncidium incurvum*, very chaste; *O. crispum*, and *O. varicosum*, very fine; *Cattleya marginata*,

Lælia Perrini, *Odontoglossum cirrhosum*, *Colax jugosus*, *Oncidium Welfoni*, and the charming Indian *Crocuses* (*Pleiones*) *Wallichiana maculata* and *lagenaria*. *Stenia fimbriata* was singular by its beard-like lip, and *Stelia Bruckmulleri* by its small triangular-shaped flowers. *Cypripediums Sedeni*, *Schlimii*, *Arthurianum*, *insigne Maulei*, *selligerum*, *marmorophyllum*, *tesellatum*, *euryandrum*, *Crostanum*, and a new variety, *C. ænanthum*, the result of a cross between *C. insigne Maulei* and *C. Harrisianum*, a rich maroon, sepals margined with white, proved their great decorative usefulness. *Calanthes Veitchii*, *Sedeni*, and *vestita rubra* were represented in the group. Amongst the Ferns were an elegant specimen of *Adiantum speciosum*, *Lomaria discolor bipinnatifida*, *Osmunda palustris*, and *A. Luddemanniana*. The *Geraniums* *Heather Bell*, *Atlanta*, *Amazon*, and *Egeria*, raised by Dr. Denny, were all excellent. A medal was recommended to be given for the collection.

Mr. Ollerhead, gardener to Sir Henry W. Peek, Bart., M.P., Wimbledon House, staged a bright, varied, and beautiful assortment of Orchids. The *Pleiones* were excellently grown. *Asanthes*, *Cypripediums*, *Vanda carulea*, *Cattleya Dowiana*, *Dendrobium formosum giganteum*, *Odontoglossum Roezli*, and *Miltonia Morelliana* were noticeable in this creditable collection, for which a vote of thanks was worthily awarded.

From the collection of Sir Trevor Laurence, Bart., M.P., Burford Lodge, Dorking, came a splendid example of *Oncidium crispum*, with six robust spikes and probably three hundred flowers, for which Mr. Spyers, the grower, was deservedly awarded a cultural certificate.

A remarkably fine example of *Vanda carulea* with six spikes and eighty-nine flowers was exhibited by Mr. Smith, gardener to C. Lane, Esq., Badgemore, Henley-on-Thames. It afforded evidence of superior cultivation, and the Committee recommended that a medal be awarded by the Council to Mr. Smith.

Mr. R. Parker, Exotic Nursery, Tooting, exhibited an extensive and attractive collection of hardy cut flowers. The varieties of *Chrysanthemum indicum* proved their value as border flowers—notably *nanum*, silvery white; *Frederick Pete*, crimson; *Hendersonii*, yellow; and *Scarlet Gem*, reddish crimson. Amongst the *Asters* (*Michaelmas Daisies*) *A. Nova-Anglie*, *A. spectabilis*, *A. Novi-Belgii*, *A. Amellus*, and *A. laxus* were fine; and the smaller *A. ericoides*, *A. Reevesii*, *A. discolor*, *A. pendulus*, and *A. multiflorus* were also very elegant. *Rudbeckia hirta*, *Chrysanthemum lacustre*, *Tritoma grandis*, *Schizostylis coccinea*, *Trollius asiaticus*, and *Gynerium argenteum album* were very striking; *Helleborus niger maxima* was extremely fine; *Colchicum autumnale flore plenum*, rosy lilac; and *C. a. album plenum*; *Pansy Queen*, creamy white with purple blotch; *Viola Sir Walter Scott*, purplish violet; *Aponogeton distachyon*, very fine; *Physalis Alkekengi* (Winter Cherry), and *Violet The Czar* contributed to this fine November display. A vote of thanks was deservedly recorded by the Committee.

Mr. Smith, Ealing Dean Nursery, Ealing, sent a collection of *Cyclamen persicum*. Some of the flowers were very large and all good. The foliage was well marbled, and an agreeable perfume pervaded the group. The colours were varied and the collection attractive. A vote of thanks was awarded.

Mr. Cannell, The Nurseries, Swanley, Kent, sent cut trusses of twenty-four varieties of zonal *Pelargoniums* quite as fine and as richly coloured as if exhibited in July. *Jean d'Arc*, pure white; *Fairest of the Fair*, white, salmon eye; *Mrs. Leavers*, rich rosy pink; *Louisa*, lilac pink; *David Thomson*, crimson; and *The Shah*, deep scarlet, were extremely fine. *New Life*, the remarkable striped variety, was also exhibited. A vote of thanks was awarded.

Messrs. E. G. Henderson & Sons, Pine Apple Nursery, Maida Vale, were awarded a vote of thanks for a stand of Japanese *Chrysanthemums*. *Gloire de Toulouse*, purplish crimson with white spots, is distinct and good; *Harlequin*, silvery pink; *Fulgare*, rosy pink; *R. T. Biggs*, crimson scarlet, were the more noteworthy varieties. A vote of thanks was awarded. Mr. Davis, Park Nursery, Plumstead Common, exhibited a stand of incurved *Chrysanthemums*. Mr. R. Dean was awarded a vote of thanks for *Godetia Lady Albemarle* grown in a pot; the plant was very dwarf and attractive.

Primula capitata from the Society's gardens was exhibited. It is a charming species, the leaves growing close to the surface of the pots, the flower trusses being borne on farinose stems. The trusses are as globular almost as large heads of clover, colour like mauve; a very charming alpine plant. A first-class certificate was awarded. First-class certificates were also awarded to Messrs. Veitch for a fine Tree Fern, *Dicksonia Berteroana*, from Juan Fernandez. It is a stately plant with robust spreading fronds of great substance and elegance; and to *Sarracenia Cheloni*, the result of a cross between *S. rubra* and *S. purpurea* with purplish crimson pitchers.

BOCCONIA JAPONICA.

This is one of our most stately and majestic-looking hardy herbaceous plants, and it is very surprising that in these days

of subtropical effects *Bocconia japonica* has not found a more prominent position. In fact, one may visit a hundred gardens and not see a plant of it; and recent works on hardy plants have omitted to notice it at all. There is scarcely another hardy herbaceous plant that is so far removed from what is termed a weedy appearance, nor one that has larger or more elegantly pennilobed foliage. In good soil it grows to the height of 6 to 7 feet, producing spikes of elegant creamy-white flowers from 1½ to 2 feet long. It lasts a long time in flower, and for centres to large clumps or back lines there are few more effective plants. It masses by itself, it has much more of a subtropical appearance than many tender plants used for that purpose. No garden should be without this plant.—T. M. (in *The Gardener*).

GRAPES CRACKING.

PROMINENCE has been given to the mysterious subject of Grapes cracking, and I for one consider that both the subject itself and the letter of "J. S. W." are worthy of their position on page 7. I shall await with a little anxiety Mr. W. Taylor's reply, for I think he has found a "foeman worthy of his steel," which is not a small compliment, and the reply I am anticipating cannot fail being instructive.

"J. S. W." has broached a somewhat new theory of the cracking of Grapes, and his remarks on the juice not issuing out of the split berries are certainly significant. I am inclined to agree with your correspondent that cracking does not necessarily result from the "force of sap from within." My reason for this is that the finest crop of Madresfield Court Grape that I ever saw was produced by Vines in great luxuriance, and which received more water at the roots than falls to the lot of Vines generally. There was a great force of sap in the case of these Vines, but much of it was doubtless dealt with by the foliage, which was ample, for the laterals were not all stopped at one joint beyond the bunch, but two or three joints were left according as there was room for the leaves to expand. That, however, was not the sole cause of the immunity of the Grapes from cracking, because I have seen other crops which have been similarly treated in respect of summer-pinching ruined by the splitting of the berries, and on the other hand I have seen sound crops under a close system of pinching. It is this—the presence of cracking under various aspects of summer-pinching—that has shaken my confidence in the "inner propulsion" theory.

When the owner of the Vines in question was advised by the writer to water his borders thoroughly just when the Madresfield Courts were showing colour, he expressed his fear of doing so on account of accelerating the splitting of the berries. The borders, however, were thoroughly watered, and not one berry cracked. The force of sap was, I know, considerable, for the berries swelled to a great size, and they coloured admirably. Their colouring may not afford evidence of the great propulsion of sap, but the matter is worthy of mention simply because they did colour under the treatment given, and that was not a dry, but a comparatively moist atmosphere. I may be wrong, but I have an idea that it is owing to a reasonable degree of atmospheric moisture that prevented the Grapes from splitting.

I think it is admitted that there is great difference in the skins of different varieties of Grapes. Some are thick, leathery, and opaque; others thin and transparent. The effect of the atmosphere, too, is different on these different cuticles. Under a very dry air the thick skins appear to turn soft, the thin skins brittle. The subject may, perhaps, be made more clear by a very familiar example afforded by very common material—paper. Thick brown paper when it is very much dried is not necessarily rendered brittle, but thin glossy paper is so brittle that it tears almost by a touch. Are not the skins of Grapes affected much in the same manner? I think so, and acted on that thought when I advised the atmosphere of the house of Madresfield Courts referred to to be kept moderately moist throughout the whole colouring and ripening period.

Usually the air of vineries is kept moist, in some cases very much so, when the berries are green, but on the first signs of colour moisture is withheld lest the fruit should not "finish" well. A diminution of moisture at that period may be advisable, but the sudden withholding of it entirely is another matter, and especially when coupled with what is not at all an uncommon circumstance—increased ventilation. I cannot conceive it sound practice to keep the air of a vinery almost

as aqueous for six weeks as that of a swamp, and then to suddenly transform it into the atmosphere of a desert—exhaustive and dry. Some Grapes will endure a change so violent, but all will not do so; the skins of the berries become suddenly dry and lose their elasticity—their expansive power, turn brittle and crack; just the counterpart, as “J. S. W.” has so well put it, of “chapped hands.” The simile may, perhaps, provoke a smile, but I believe your correspondent is not “a mile off the mark,” but, on the contrary, has made clearer than before at least one important element in the philosophy of Grapes cracking. I have more than once thought that gardeners were “on the wrong track” when providing an extremely dry atmosphere to prevent the Grapes from splitting—they were, I fear, rather opening the door to the enemy; at least if it is not so I shall be glad to see evidence to the contrary. This phase of a mysterious problem is an important one, and is worthy of consideration and discussion.—A NORTHERN GARDENER.

NOTES AND GLEANINGS.

“AN OLD SUBSCRIBER” says that he was told by a very successful market gardener, that the tubers of JERUSALEM ARTICHOKEs are much improved after taking up by being laid for a time on unslacked lime.

VARIOUS causes were attributed regarding the great scarcity of HOLLY BERRIES last year; this year reasons will be sought accounting for their great abundance. We have rarely if ever seen such a brilliant crop as is now seen on shrubs of nearly all the berry-bearing varieties. Green-leaved and variegated kinds are alike laden with rich clusters. We have observed this in many nurseries and private gardens in widely separated districts, and doubt not that the profusion is general. We have even observed closely clipped Holly hedges, on which berries are seldom seen, studded with scarlet and yellow fruit. In fact we believe that few varieties capable of bearing fruit are this year fruitless. Last year the frosts of spring were generally considered as having rendered fruit trees and Hollies alike barren; but this year different results are forthcoming, for the crops of fruit are sparse, of Holly berries prodigious. How is it?

We have received the annual Report of the MELBOURNE BOTANIC GARDEN, and it is unmistakable evidence of the capability of its Curator, Mr. Guilfoyle. He says—“A number of plants, generally supposed to be unsuited to outdoor culture in this climate were successfully placed out in the grounds. Amongst them were *Quisqualis indica*, *Beaumontia grandiflora*, *Euphorbia splendens*, *Strelitzia augusta*, *S. regina*, *Allamanda nerifolia*, &c. These and many other tropical plants have proved hardy, growing vigorously outside. The *Alsophila excelsa* of Norfolk Island, a Tree Fern which attains the height of 80 feet, has also grown with remarkable rapidity in the open air. As a counterbalance, however, I regret to say that my anticipations respecting the *Cinchona* (Peruvian Bark), have proved correct—it is an unmitigated failure.”

OUR correspondent “A KITCHEN GARDENER,” writes to us as follows on MEDICATED TOBACCO PAPER:—“I had some of this paper sent me a short time ago by Messrs. James Dickson and Sons, “Newton” Nurseries, Chester, to try, and after doing so I must say it is the best fumigating material I ever used. It appears to be made of strong brown paper saturated in tobacco liquor, then rolled firmly up and cut into slices. It is only necessary to place a quantity of it on red hot embers and every particle of it is consumed. There is no half-burning or waste whatever about it, while the smoke from it is efficient in killing the insects and quite harmless to the plants.

It is estimated that nearly 3,000,000 bushels of POTATOES are frequently consumed per year in the States of Maine, New Hampshire, Vermont, and New York in the production of Potato starch. There are about 225 factories engaged in the manufacture of this starch, and the average price paid for Potatoes by starch manufacturers during the past season has been 25 cents per bushel. The aggregate annual production of all the factories is usually from 6000 to 11,000 tons. The value of the total production of Potato starch in the country is from \$800,000 to \$1,200,000 per annum.—(*New York Commercial Bulletin*)

MR. W. PAUL, Nurseries, Waltham Cross, has published his “ROSE ANNUAL FOR 1877-78.” It contains coloured portraits of Red Dragon, Roxy Morn, Perle des Jardins, and Magna Charta; descriptions and relative notes accompany

them. At the end Mr. Paul dwells upon decorative and exhibition Roses, upon Rose shows, and appends letters from correspondents. We add the following as Mr. Paul's selection of worthy Roses:—“Of the novelties introduced in 1875-6, the following have commended themselves most to our judgment—*Hybrid Perpetuals*: Abel Carrière, Avocat Duvivier, Duc de Montpensier, Duchesse de Vallombrosa, Gustave Reville, Jean Liabaud, Madame Ferdinand Jamin, Madame Prosper Langier, Marguerite Brassy, Monseigneur Fournier, Oscar Lamarque, Sultan of Zanzibar, and Triomphe de France. *Tea-scented*: Mdlle. Marie Berton, Maréchal Robert, and Souvenir de Madame Pernet. Of the Roses of the present year (1876-7), the following seem to us the best—*Hybrid Perpetuals*: Mdlle. Emma All, Marie Louise Pernet, and Marquise Adèle de Murinais. *Tea-scented*: Comtesse Riza du Parc, Mdlle. Lazarine Poizeau, Souvenir de Georges Sand, and Triomphe de Milan. We do not describe these varieties, because their full descriptions may be seen in one or other of the leading Rose catalogues, which all lovers of Roses will be sure to possess. Of Roses not yet in commerce, but which will probably be sold in the spring of 1878, May Quennell (Postans), Penelope Mayo (Turner), and Mrs. Laxton (Laxton), have been shown good during the present year.”

A NEW PRODUCT FROM THE PINE.—Vanillin exists in the sap of the Pine (*Pinus sylvestris*) and of the Larch. For the purpose of procuring it the trees are felled during the period when vegetation is most active, and are stripped of their bark. They are then immediately scraped, and the product collected in vessels of tinned iron is immediately heated on the spot to prevent fermentation, filtered, concentrated, and allowed to cool and settle. A substance is thus obtained which resembles powdered sugar, and which is known as coniferin. This is a stable compound, and is sent in barrels to Paris, where the vanillin is extracted. The process of extracting the vanillin is an expensive one, but the product is procured at a less cost than the natural vanilla of commerce can be purchased at.—(*Scientific American*.)

CHRYSANTHEMUMS IN LONDON.

REAL city flowers are Chrysanthemums. They grow and flower on housetops and in cellar-like areas, in small cramped courts and in smoky misty squares, imparting brightness where it is especially required and at a time when it is particularly welcome.

The head-quarters of these city flowers have for years been the gardens of the Middle and Inner Temples, where Mr. Broome laboured so long and so well, where Mr. Dale won renown, and where Mr. Newton practises so worthily. In previous years Chrysanthemum shows have been provided in both the Temple gardens, but for some few seasons Mr. Dale has been fighting hard against encroaching buildings, and at last the buildings have conquered. The veteran retires honoured and respected, and leaves the field open to his younger neighbour. There is, therefore, only one show this year, but that show is a good one, even (considering that all the plants now blooming have been grown almost within a stone's throw from Fleet Street) excellent. There are about four hundred plants arranged on the south border of the enclosure, temporarily covered with glass and screened from the wind by canvas. The flowers are just in beauty and will continue attractive for several days; they will commence fading, however, after the Lord Mayor's day, the 9th inst., and the sooner they are inspected the better.

The exhibition is not remarkable for a few sensational blooms and a greater number of inferior flowers, but it is meritorious by its average quality—its level excellence. That sure index of good culture—rich dark foliage, shows the blooms to great advantage, and renders the display alike creditable to the grower and enjoyable by the visitors. There are no new varieties of striking quality. Gloire de Toulouse, dark rosy purple, and The Cossack, cinnamon scarlet, both Japanese, are the most noticeable. The former will make a good companion plant to the pure and beautiful Elaine, and the latter will be grown for its bright colour. For general decorative purposes the trio—Mrs. George Rundle, white; George Glenny, sulphur; and Mr. Dixon, golden yellow, are still unsurpassed; perhaps, taking all their qualities into consideration, unequalled. Mrs. Parnell may be a trifle larger than Mrs. Rundle, but it is no easy matter to distinguish them. About the same difficulty arises in the case of Plenipo and Katherine Talfourd. The blooms under both these names are good, rosy purple in

colour, and globular in form. The largest bloom of all is Prince Alfred, rosy crimson; but only a shade smaller is White Globe. Refulgence, crimson maroon, is extremely rich, but its yellow eye is objectionable, and it is a question if it can be "grown out," as was at one time supposed. King of Denmark, rosy lilac and golden tips, is distinct and attractive; and Mr. Gladstone and Comte de Ranzeau are very rich. Phidias—the old Phidias—pale rose, is still a favourite; and constant as ever is Aurea Multiflora. The Beverleys, Lord Derby, and Golden Eagle sustain their position as "good old standards." Having smaller reflexed flowers—free, bright, and useful—are Sparkler, Mount Etna, and Bernard Pallisy; they are of the Julie Lagravère type, and are worthy of culture for conservatory decoration and for yielding cut flowers for vases. Amongst the large Anemone-flowered varieties the finest are Lady Margaret (white), which is fine indeed, and Prince of Anemones, lilac bluish.

The Pompons in the exposed border are not yet in beauty, but there is plenty to admire without them; it is encouraging to Mr. Newton to have such a large number of appreciative visitors, and the liberality of the honourable Society of the Inner Temple in providing such an enjoyable display cannot be too warmly commended.

THREE YEARS' EXPERIENCE IN A GREENHOUSE.—No. 3.

HAVING settled down to my work in earnest, I began to consider not only how many distinct varieties of plants I could grow in the one house (I do not mean simply with regard to space), but in what plants I could most excel, the conditions of temperature and ventilation being equal to all, except that I should keep some plants near the stove and others as far from it as possible; indeed, it is astonishing to note the results attendant on the arrangement of a house, whether you place a plant at the back of the door or at the point where the door opens to meet perhaps a temperature of 10° below freezing. For instance, say the door opens on the left, a Stephanotis is close at hand to meet the cutting draught; a Rose is opposite at the back of the door. The Rose will not suffer from the extra warmth, but the Stephanotis will assuredly from the cold. Reverse the positions and both will do well. To obtain successful results these apparently minor points must be studied.

There are many who love flowers superficially, yet amongst the lovers are some whose interest would grow deeper were they only to study a few simple conditions necessary for successful cultivation. It is to the latter section, hoping to increase their number, that my remarks are principally addressed, though I trust to meet with still more congenial spirits—those who love earnestly, not alone the contemplation or possession of a gorgeous flower, but derive pleasure from the germination of a seed, transplant, watch its growth day by day as leaf after leaf appears, and at length the flowers—aye! and what flowers they will be if only tended even with a moderate amount of care and discrimination!

Returning, however, to the practical, I will begin with the arrangement of the house. Say the door facing west opens inwards, on the left are Roses in pots, Acacias, a Plumbago, Azaleas, French Geraniums, Cinerarias, and Ericas; then close to the stove a Gardenia. I had the latter quite a small plant two and a half years ago, and only last month cut from it fifty large flower buds; it having flowered almost incessantly I thought I would give the poor thing a rest. On the right-hand side I place a selection of the same plants aforementioned to bring them on more quickly, also *Pleroma elegans*, *Aloe frutescens*, and the stove plants introduced in the third year of my experience. The two shelves near the glass are valuable for seedlings or cuttings which have been thoroughly started in the bottom heat mentioned in the *Journal of Horticulture*, September 27th. At the east end and back of the stove I arrange a row of Cactuses on a shelf right across, resting on the side lights, and they thrive admirably; but, being placed in such a warm corner I give them a little water in their saucers once a week or perhaps a fortnight. Were they kept in a cool greenhouse this would mean killing them; though after all, depending so entirely as it does on conditions, it is impossible to tell anyone when to water a plant or where to place it, though the latter question is an all-important one, especially in a small house like mine; also whether its requirements are heat, moisture, dryness, sun, shade, &c.; but all these difficulties are soon overcome, and think of the pleasure and satisfaction in surmounting them.

To digress. When leading a bush life in Australia I put my hand to many things, but always found the greatest pleasure was overcoming a difficulty in some occupation of which I had least knowledge. Let no one be discouraged because he has not gained a prize or done well even up to the present; look to the future, and if you only have the subject at heart you must do well.

Now to work. About the 10th of February is the commencement of my year; the birds are beginning to mate, and the hedges are showing their tiny green-tipped buds, and many are the proofs of Nature's returning activity. It is too cold outside to do much, but inside our little house great preparations may be made. Roses, by-the-by, were taken in in January to flower at the end of March and April. Camellias finished flowering are now repotted in partly peat, but as peats differ so greatly I use decayed grass turves with a small handful of charcoal broken roughly about the size of peas, and larger pieces for drainage. Indeed I use charcoal for nearly everything and find it invaluable. See page 139, "Science and Practice of Gardening" (Johnson). This book I have found a treasure. Speaking of drainage, it is an item that must be especially insisted on in pot plants. A plant clogged in the drainage, having extracted its natural food from liquid supplied, the residue of the supply constitutes a poison. This is one point that must never be forgotten.

At the end of February and on into March we begin to strike *Verbenas*, *Lobelia compacta*, *Cupheas*, *Lantanas*, &c., sow seeds in pans or boxes of Golden Feather, *Coreopsis*, and Intermediate Stocks, the latter to bloom in autumn, and many other things required for summer planting and greenhouse decoration. All will grow rapidly on the tray of hot sawdust. Then in April, if you wish to propagate Dahlias, pack your tubers close together in a box with cocoa-nut fibre, place them near the stove, quickly will the shoots spring forth, cut them off close to the tuber, plant in large 60's, they will need nothing more than plenty of water till planting-out time—end of May.

As all things are now growing so quickly, it is of the utmost importance to utilise and economise space. A shelf running full length under a north stage I find answers capitally for all cuttings and seedlings. Place also a couple of rows of these small fry on the ground under this shelf. Everything is now arranged *pro tem.*, and that is all, for allowing plants to remain in one position month after month, or even week after week, is a great error. I arrange my house once a week—it's like taking your children out for a constitutional—for singular as it may appear to those who have not studied the subject, a plant, like a child, requires exercise. Just consider for a moment: the natural atmospheric conditions of all plant life are either heat, cold, moisture, comparative drought, and always more or less wind, or in other words exercise and movement.

Now in a house like mine, where it is necessary to retain heat for *Gardenia*, *Stephanotis*, &c., it is impossible to give the same ventilation you would to an ordinary greenhouse (excepting, of course, in the hottest months in the year). It must not be forgotten that my remarks refer to a mixed house wherein many things are grown, from an *Acacia dealbata*, which will almost stand frost, to a *Gardenia* requiring both top and bottom heat. In this my second year I introduced six *Ericas*, small plants in 60's. I always buy small plants, the pleasure is so much enhanced by growing them on into specimens; you lose all the pride and satisfaction if you obtain them full grown. Then I bought a few *Achimenes*; *Gloxinia tubiflora*, little known, but valuable for cut blooms and general effect; and a *Gardenia*—too much cannot be said of this lovely flower if only generous treatment be given. I introduced also a few Ferns. In selecting Ferns one should choose those widely differing in appearance though still amenable to the same conditions of temperature, &c. In my next paper I will give the names of those I have grown most successfully.—RESPICE FINEM.

KEEPING GRAPES IN BOTTLES OF WATER.

BEING compelled to fill the vineries under my charge with plants, I am cutting the Grapes and placing them in bottles of water. The plan I adopt is that of Mr. Nisbet of Aswarby. It answers admirably, and I wish to recommend it to other gardeners who are situated as I am.—A. N. G.

[Mr. Nisbet's plan and his remarks thereon are appended.—EDS.]

THE Grape-room at Aswarby Park is on the second floor from the ground, with an aspect to the north unvisited by the

sun's rays, and possessing great dryness on account of its elevated position. I find that there are three great evils to be guarded against, and these are damp, frost, and artificial heat. My room is 21 feet long, 16 wide, and 7 feet 6 inches high, with the two outer walls looking respectively towards the north and the east. The walls are thoroughly plastered, as is also the ceiling, the latter three coats deep, and the floor consists of composition. Clean dry sawdust is strewn on the floor, and likewise on the top of the ceiling between the rafters, being intended in the latter case to keep out the frost. Two opening windows look towards the north, and are each fitted on the inside with shutters, which should be closed in severe weather, and the space between them and the window padded with any clean dry material. The door is single, and on the south side, but it can be converted into a double door when required, and the space between closely padded, as in the case of the windows. Thus the room is almost air-tight in frosty weather. All ventilation is effected by means of the door and the windows; and as fresh air, with a good amount of light, is required at all times, I open them whenever the weather permits. Should the day be damp and cloudy, or the wind in the north, I do not open the room, but otherwise I never lose a chance of admitting light and air, if only for half an hour. On the 8th of December, when we had 20° of frost, the temperature in the room did not fall below 38°, and this was without the aid of artificial heat. As a rule, the temperature is nearly 48°, and this can with careful attention be maintained for weeks without artificial means.

At each end of the room are arranged fruit-shelves for the best varieties of dessert Pears and Apples, whilst the centre of the room is devoted to the keeping of Grapes. We have here eight standards, 6½ feet high and 2 inches square, into two sides of which are let, alternately, brackets 1½ inch thick, and which, after being thus fixed, measure 4½ by 3½. Four of these standards are placed on each side of the room, leaving a passage-way all round them. The bottle-receptacles are then laid on the brackets, so as to rest perfectly flat, and are made fast with one screw-nail driven through the under side of the bracket into the under side of the bottle-receptacle. A light facing of wood fitted on the front of the standard rests upon the receptacle and fits under each bracket, thus preventing the receptacle from rising up behind, and giving the whole a neat and finished appearance. Each pair of standards has seven 10-feet lengths of bottle-receptacles, four on one side and three on the other, each length holding eleven bottles, so that each pair of standards carries seventy-seven bottles; it has also an iron spike in the top. There are two laths of wood along the top of the standards, with holes in them at the same distance as that at which the standards are placed, and bound together by means of an iron spike, which passes through the holes. Fig. 69 shows the standard. Fig. 70 shows the top of the bottle-receptacle. Fig. 71 gives a full-sized sectional view of the receptacle containing the bottle.

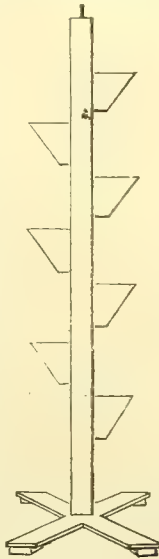


Fig. 69.



Fig. 70.

I have tried many different mixtures for filling the bottles, but I find there is none equal to charcoal and pure rain water, close to which the stalk of the bunch of Grapes is placed, as shown in fig. 71. The Grapes should be cut as they ripen, and not taken off all at once irrespective of their exact condition. Ten or twelve days before I cut any bunches I went over all the Vines in the Muscat house, trained on the extension system, the foliage of which was at that time perfectly green and healthy. From these I selected from forty to fifty ripe bunches, the shoots of which I shortened to two eyes above the bunch, at the same time letting remain what small laterals there were attached to these eyes. By thus cutting back the shoots ten or twelve days before taking the bunches to the room, the use of sealing-wax or any other material is dispensed

with, as the shoot becomes perfectly hard and dry, and will neither take in nor give off moisture.

I have the bottles prepared beforehand, and after cutting the shoots off at the second eye beneath the bunch, if possible, I carry the bunches, with all the green foliage untouched, to the storing room, and place them in their respective positions. This foliage should be allowed to die-off of its own accord, after which it must be carefully removed.

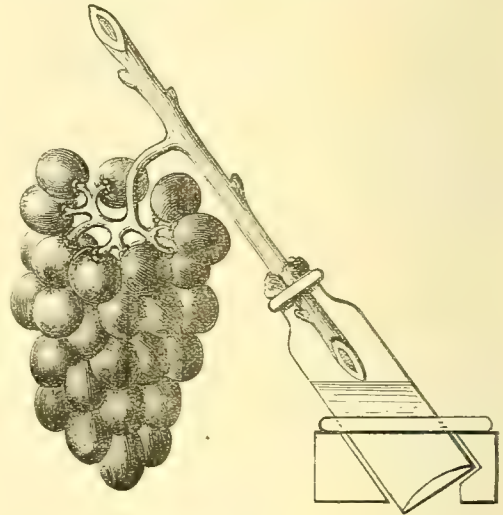


Fig. 71.

When I have put the first lot past I go to the vinery and make another selection, to come in at the proper time. Although this may seem a slow process to some, I am, nevertheless, perfectly satisfied in my own mind that it answers better in the end. The foliage was nearly all gone from the Lady Downe's when I cut them, but this autumn I intend to select them in the same way as I did the Muscats.

I think the time is not far distant when Grape-rooms will be as common as our fruit-rooms, and answer the end in view just as well, provided they are carefully attended to, for without this Grapes will not keep four or five months.—RICHARD NISBET, *Aswarby Park Gardens, Falmouth.*

P.S.—The bottles are all stoppered with wadding, as in fig. 71.

BEDDING PLANT HOUSE.

WE have received so many inquiries on this subject—that is, a house efficient and economical—that we submit a sectional drawing of a house erected by Mr. Peach, and on which he has written as follows:—

The plant house which I have put up here is economical in point of expense and economical as regards space, all the plants being fully exposed to light. There are two shelves carried all the way round, one of which, the centre shelf, is wide enough

for four rows of 4-inch pots placed crossing each other; the outer one is for three rows of pots. The plants on the shelves are easily watered by a small step-ladder from the central path. I use no putty and have no laps; the glass in the sides (marked c in the section), merely slips into grooves, the upper groove being made seven-eighths of an inch deep, the lower one three-eighths. The glass is slipped up into the upper groove first and allowed to fall into the lower one. The glass for the rafters and sides is all of one size—20 inches by 16, and is 21-oz. fourths. The upright side pieces, 3 inches by 2, which support the upper piece of wood, 3 inches by 3, on which the rafters rest, are set back 1 inch on the wall-plate, so as to allow the glass to slide freely past them in the groove. The glass is continuous on the sides from one end to the other, the

squares merely butting one against the other. This prevents all necessity for sash-bars. I cut a nick in the bottom groove

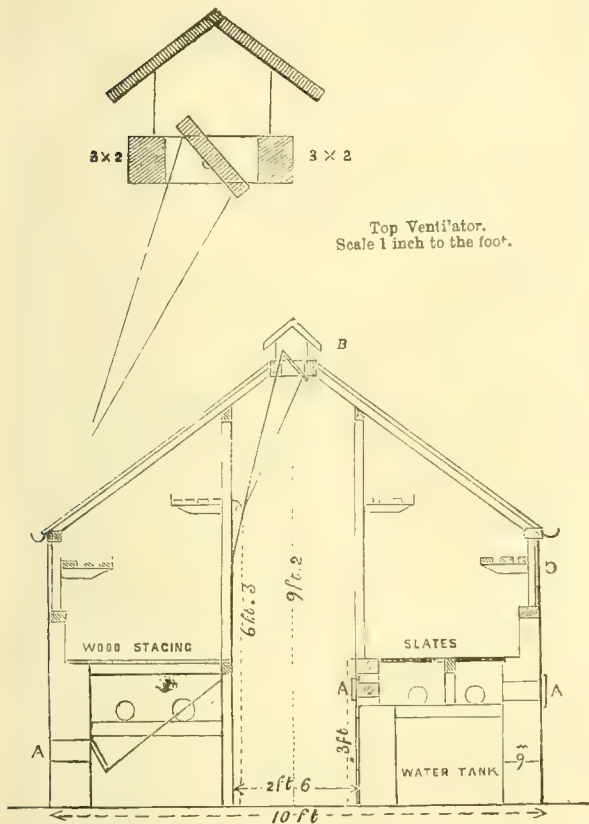


Fig. 72.—Section of House. Scale one-quarter inch to the foot.

in the centre of each pane, to allow rain to drain out of the groove. The panes of glass in the rafters are pushed up from the bottom, and butt one against the other. They are fastened at the bottom by a bent galvanised iron wire pin, which is screwed on the inside of the upper pane 3 by 3, so that at any time in case of fracture the pin can be unscrewed and all the glass taken out. The spouts are fixed in the same way by strong iron crooks bent over to the top pane and screwed on to the inside.



Fig. 73.—Spout.

The water from the roof is carried into a tank made the whole length of one side of the house, by cementing the outer wall, and building an inner wall to carry the staging. The staging over the tank is of slate, with two rows of hot-water pipes confined in the chamber underneath. Sliding ventilators, as A A, are put into the inner and outer walls. If both ventilators are closed, the space over the water tank acts as a hot-air chamber, and keeps the slates at a temperature of from 90° to 100°. The heat is, however, entirely under control by means of the double ventilators.

On the opposite side the staging is open woodwork, laths 3 inches by 1 inch, half an inch apart, and nailed together in 4-foot lengths. Two rows of 4-inch pipes, one flow and one return, are supported by the wooden staging, by wood pieces from the uprights into the wall. These wood pieces are 4 feet apart, and gradually rising 1 inch at every upright from one end of the house till the pipes reach to the highest point of the flow, under the slate tank, on the other side.

The house is 25 feet long, and contains a little over 90 feet of pipe; but the flow is so perfect that there is hardly any perceptible difference between the heat of the flow and return pipes where they enter the house.

The boiler-house is at the opposite side of a path 5 feet wide, at the end and as a continuation of a five-light frame, the flue from the boiler heating the frame; the boiler, a common small saddle-back, properly set, the fire playing through and all round the boiler.

The shelves are made of laths 3 inches by 1 inch, screwed on to light flat iron bars, so as to be moveable in sections, and to be taken out when required; they are supported on wood brackets tenoned into wooden uprights. The water-tank is made with a slight fall to the end farthest from the door; and under the staging, which returns at the end, a small cistern is made, about 2 feet square and 2 feet deep, to dip a can into, the cistern being supplied from the tank by a tap. As there are two rows of hot-water pipes over the water-tank, it helps to keep the rain water during the winter at the temperature of the house.

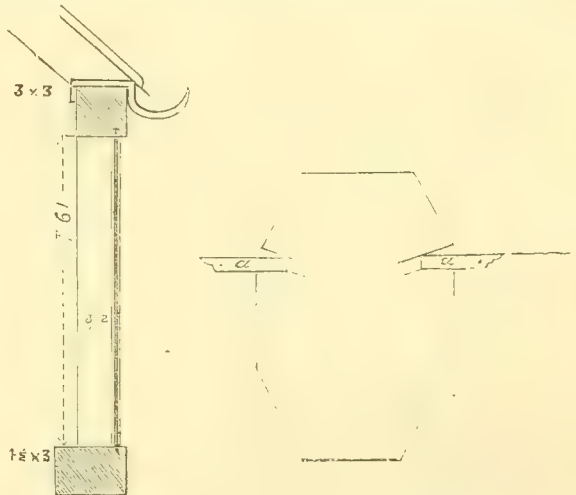


Fig. 74.—Side c, 1 inch to the foot. Fig. 75.—Section of rafter, 3 by 2 inches. A A, Glass.

Ventilation (A) under the wood staging is through openings in the brick walls, with moveable shutters hung on hinges and regulated by a string. The upper ventilator is a fixed pent with moveable shutters hung on pivots, and also regulated by means of strings. The ventilation is in all respects very efficient, and there is always a slight current of air passing under the glass, as the glass in the rafters does not touch the wall-pan by three-eighths of an inch. This prevents water accumulating on the wall-pan, and any rain which finds its way through the butt joints runs down the inside into the spout, and though there are no laps the house does not leak in the wettest weather. In summer weather the front row of glass can be taken entirely out and Nottingham netting put in its place, or one or two panes can be taken out and the others separated. I frequently do this to harden plants previous to bedding-out.

The house runs east and west, but I should prefer to put it up north and south. I never use any shading, but after the first or second week in April put a slight wash of milk and whitening with a very little paste outside on the south side; this when once dry will resist almost any amount of rain, and breaks the scorching rays of the sun without interfering in any way with the light. I do not claim any particular novelty, but I have never seen any house exactly like it, and I built it for the sake of accommodating as many plants as I could, when potted-off, in a small space.

The house is only, as I stated, 25 feet long and 10 feet wide outside measure, but I can put 2500 Geraniums in 4-inch pots into it. I built it before I had seen any other house without laps to the glass or putty, and I still like the form of rafter better than any other I have seen, as by plunging the groove at an angle and then taking a slight shoulder off with the chisel, a groove is left under the glass, down which any water which is drawn to the rafter runs, instead of dripping into the house. I have never seen any drip whatever from the rafter. I can recommend the house to any amateur who wishes to have a generally useful plant-house, and especially to those gentlemen who expect their gardeners to turn out large quan-

titles of bedding plants, and who have hitherto provided no additional means.

NOVELTIES IN THE ROYAL GARDENS, KEW.

THE Fern collection has of late been largely enriched from several English and foreign sources, and of the new kinds there is nothing likely to be of greater horticultural value than *Adiantum cuneatum* var. *Lawsoni*. It was raised from spores by the Rev. W. L. Lawson of Lynton, who sent the plant to Kew, whence it has been distributed to most of the leading firms, whose representatives have considered it an extremely fine plant, and even by some as superior to *A. gracillimum*. The fronds are lighter, and for some purposes more elegant than those of *A. cuneatum*; the segments are more sharply wedge-shaped and more deeply divided into lobes. It grows with great rapidity, though probably not faster than *A. cuneatum*, the good-keeping properties of which it is found to possess.

Immediately within the door of the Succulent house are two new *Stapelias*. The first is *S. Sarpedon*, a robust-growing kind with fine purple-brown flowers more than 4 inches across and ornamented round the margin by a fringe of hairs; the other is scarcely more than a quarter of an inch across and is elevated on stalks $2\frac{1}{2}$ inches long, by which it is rendered strikingly distinct. Directly the corolla expands the segments are rolled up beneath, so that the flower assumes the form of a little cushion with a depression above and below. The surface appears hoary with a felt of white hairs, though beneath these the colour is brown. It is now flowering for the first time, and a name has not yet been applied. *Paya grandiflora* is flowering in this house and presents a striking appearance. The plant itself is about 7 feet high, and from a single stem below it branches above in several Pine-apple-like crowns of foliage, forming together a magnificent head. Below these are the dried leaves of many past years, clothing the stem as with the shred robe of some savage chief. Two immense panicles are bearing flowers of unusual size in the order *Bromeliaceae*. They are 5 inches in length and of peculiar livid hue. The stems are densely covered with red-brown stellate hairs. A plant of *Crassula rubicunda* is considerably ornamental. It has several stems bearing large corymbs of red flowers, and reaches to scarcely more than a foot high, while having the same width. It flowers with much greater certainty than *Rochea falcata*, and being equal in beauty is desirable in any collection of greenhouse plants.

In the *Begonia* house are suspended near the glass some pots of the new *Torenia Fournieri*, bearing in one case between thirty and forty flowers, thus presenting a very charming appearance. The rare *Impatiens Jerdonia* in the same position has been flowering continuously during the summer, attracting much attention from its peculiar scarlet-and-yellow flowers. *Coffea travancorensis* is flowering profusely in the stove. It is a small-growing species, and this plant, though several years old, is less than 3 feet high; the white flowers are small but very numerous, and the perfume is delicious.

The Orchid collection is enlivened with several fine varieties of *Lælia Perrini*. One dark form in particular is noticeable from its size, substance, and pure colouring. *Cattleya elegans*, in addition to its beauty, emits a sweet perfume perceptible at some distance. Of *C. maxima* there are two forms beautifully veined, the one dark and the other light. A fine specimen of *C. Leopoldi* will shortly be in bloom. *C. Lindleyana* is not as a rule very attractive, though worth mention as one of a splendid genus. *Liparis spatulata*, though without colour, is pleasing to the eye from its gracefully curving flower-spikes in a way similar to *Dendrochilum filiforme*. *Burlingtonia decora* has long been in bloom, and is always welcome with its deep lilac-and-white flowers. *Saccolabium calceolare* is an interesting little plant, the cluster of yellow sweetly-scented flowers nestling low down at the base, and meriting in the form of the lip a well-applied name. *Eria odoratissima*, though not showy, may have mention for its pleasingly scented flowers, produced a few together on a single spike. *Pleione lagenaria* and *P. maculata* are both pretty representatives of the Indian *Crocuseae*. A splendid specimen of *Odontoglossum Bictonenae* is throwing up eleven strong spikes. *O. Uro-Skinneri* and *O. cristatum* are other species in flower. *Oncidium verucosum* has a fine mass of clear yellow flowers, and one plant appears equal to the true *O. Rogersi*. *Masdevallia Veitchi* and *M. gibberosa* flowering together are in strong contrast; the first, as well known, bearing a magnificent flower, while the

other is of the dullest colour and most eccentric structure. *Restrepia antennifera*, to which we have often called attention, and *Gongora odoratissima*, are two very curious plants growing near together. Other ornamental Orchids we find in *Miltonia Clowesi*, *Mesospidium vulcanicum*, and the *Cypripediums* now represented by *C. purpuratum* and *C. Sedeni* as the prettiest in colour. A large plant of *C. Harrisoni* is imposing with several fine glossy flowers. These are accompanied by *C. Roezli* and *C. longifolium*.

STRAY NOTES.

THE roof of our stove is now (October) resplendent with the bright rose flowers of *Passiflora princeps*; the sprays 2 feet and more in length have a telling effect. The individual flowers are of short duration, but the unexpanded buds are very attractive. The flowers are produced most freely from the old wood, the wood requiring to be two or three years old before the flowers are freely produced. It flowers continuously all the year round, being most gay in late summer and spring. Alternating with it we have *Clerodendron Balfourianum*, which never fails to flower in early summer and again in autumn, its branched cymes of creamy white bracts with the peeping star-like corolla have a beautiful effect; indeed, I know not which (the *Passiflora princeps* or this) is the more beautiful. Associated with those on the same roof is *Ipomœa Horsfalliae*, with its great clusters of buds and flowers, successively produced, of the loveliest satiny crimson. It commences flowering in September, and continues through the winter. It flowers from the stem of the old wood like *Passiflora princeps*. *Bougainvillea glabra* gives its mauve-coloured bracts, and these have a very graceful effect when the plant is trained on the roof. The flowering sprays are in higher luxuriance than from plants grown in pots. The four plants named flower early and late, and are remarkable for cleanliness, not having given us the trouble of applying an insecticide for many years. I strongly recommend them for clothing the rafters of a stove. Another plant well worthy of note is *Jasminum Sambac flore-pleno*, which does equally well planted out or grown in pots, and is of the easiest culture. It is very lovely and highly perfumed.

Stove wall-plants are not difficult to find. When the wall is not shaded, or only slightly, none are finer than the fiery scarlet *Euphorbia jacquiniæflora*. Plants in pots afford no idea of the great beauty and usefulness of this plant when planted out in good turfy loam and encouraged during growth with liquid manure. Beautiful as this is it cannot bear comparison with the scarlet-bracted heads of *Poinsettia pulcherrima*. A wall covered with it and the white variety *P. pulcherrima alba*, trained so as to have the floral heads interspersed, has a charming effect. Still more graceful covering for a wall are the *Begonias nitida* and *fuchsoides*, waxy white and the richest of waxy scarlets, the plants growing and flowering all the year round, giving more sprays than any other plants I know. The spray of the scarlet (*fuchsoides*), depending over the edges of an epergne, are inimitable. For a shaded back wall in a stove *Cissus discolor* is admirable, clothing the space as no other plant can with the richest and most lovely of leaf beauty. I may mention that this plant trained to a flat trellis forms one of the richest of live screens for house decoration on "great occasions," having a peculiar richness and lustre, especially its young growths, in artificial light.

Primula intermedia is now throwing up fine trusses of flowers, two and three from a crown; one truss only just clear of the crown is flowering, bright rosy purple in colour, deeper than when the plants flower at their usual time in spring. It was kept in a cold frame in summer, shaded from bright sun, and well supplied with water. It appears to like strong loam and plenty of moisture, but not over the foliage. The truss now flowering showed itself last spring and remained dormant through the summer; this I attribute to the plant being kept too dry and warm during the winter previously. The other trusses will no doubt remain stationary over the winter and bloom strongly, as is not infrequent with *Auriculas*, in spring.

My seedling *Cyclamen persicum*, the seed of which was sown in March and the plants grown in a frame, have done remarkably well, quite as well as I have usually had them from autumn and early spring sowing and growing in heat until midsummer. I have several plants in flower of a very serviceable size for decorative purposes. The old plants have been kept in cold frames and shaded from bright sun. They were kept moist and were not repotted when recommencing growth, but a little of the surface soil was removed and replaced with fresh turfy loam

and cow dung (old), and the result is a great profusion of flower buds and healthy foliage. Some of the corms are 4 to 5 inches in diameter, and promise to flower better than they have done in previous seasons. They will be kept in a temperature of 40° to 45° fire heat and be placed near the glass on a cool moist bottom, for I am convinced that the flower and leaf stems damp at their base from the frequency of the watering necessitated by keeping the plants in a dry place.

The double lilac *Primrose* (*P. altaica*) is flowering very freely in a border among or rather facing some shrubs, the flowers being larger and much deeper in colour than I have observed them in early spring.

Of all the plants used for clothing a wall I have seen none that are at this season more beautiful than the small-leaved *Cotoneaster microphylla*, its deep shining green mantle being so densely and regularly decked with orange-red bead-like berries. *C. buxifolia* is also fine in foliage and berry. Some, however, prefer the bolder foliage of *Escallonia macrantha*, which is very glossy, and the bright rosy flowers are both beautiful and fragrant. The *Escallonia* requires a wall with a south, south-east, or south-west aspect in northerly and elevated situations, but on warm sunny slopes is one of the finest of spreading shrubs. The bright crimson leaves of the Virginian Creepers upon a north wall in contrast with Ivy are very striking. These, with the Traveller's Joy (*Clematis vitalba*) are intermingled. All that is wanted is to cut away the shoots of the *Clematis* close to the Ivy when its leaves commence falling, to expose the green surface during the winter months.

I have been often struck with the great beauty of some plants as we see them in nature. One example will suffice—a Holly standing on a knoll. It may at some time have formed part of a fence. At its base is the common Whin, a mass of gold in spring. Through the head of the Holly peer here and there depending branches of wild Rose, covered in the dog days with blushing buds and pink salvers. The Holly itself, when loaded with its bright scarlet berries (as it is this year), is the finest of all winter ornaments, and always beautiful from its evergreen character.—A YORKSHIRE GARDENER.

MR. RICHARD SMITH'S NURSERY AT ST. JOHN'S, WORCESTER.

PART I.—INTRODUCTION AND ROSE DEPARTMENT.

I HAD long wished to see this great nursery. "It is a marvellous place," said a good judge to me. "You should see it," he added, "you really should; now this September go." Somehow or other I fancied I should never manage to get there; for three autumns I had been invited, but not once had I been able to leave home at the wished-for time. A man with a profession and who sticks to it is not only tied by the leg, but whenever he especially wants to run away it seems to me his leg is sure to be tied the tighter. Then I never wish to be "a peripatetic parson." St. John's Nursery, said I to myself; well, I don't think I shall ever see it. I read the labels on my own trees, "Richard Smith, Worcester." I went to see other people's pyramid Apples and Pears, they had the same labels on. I went to take a baptism for a friend, I saw some new trees being planted in a garden adjoining, trees of ornamental foliage. I saw some little flag-like labels on them, and, while waiting for the little innocent, thought I would see where they came from. There on them the same label, "Richard Smith, St. John's Nurseries, Worcester." I took down by sheer accident (I am not romancing), a copy of the "Florist and Pomologist," it was that for July, 1876, from a friend's shelves, and I opened it at a picture, a coloured one, of the Worcester Pearmain, brought out by Richard Smith, Worcester. Next time I saw a certain Doctor (we all know who that Doctor is) I said, "That picture of the Worcester Pearmain in the 'Florist and Pomologist' of July is an exaggeration as to colour surely?" "Not a bit of it," was the answer, "go to Worcester and see them on the trees." "There," said the Doctor, "there is another picture of the Apple," opening his desk in that old office not far from old Temple Bar, and thrusting a highly-coloured picture in my hand; "there, there it is, correct as possible." Well, seeing is believing, thought I; I will go and see. I will go and see the countless fruit trees, the vast spread of foliage trees, and all the wonders of St. John's. Good reader, I have been to see, and I will take you into my confidence and tell you all I saw. I went one fine day in September, the best time of all the year

perhaps to stroll through a nursery. May is too chilly, July is too hot.

Onward from Wilts to Worcester, on by Great Western, sharp turn up Gloucester way, through the picturesque valley where busy Stroud lies, on further in sight of the Malvern Hills, past innumerable orchards, and Worcester station at last, and there was Mr. Smith, and so we met. 'Tis afternoon and too late to go to work, so my host drives me about the clean bright city, certainly one of the cleanest places I ever saw, and this was a second visit as to Worcester itself. Worcester looks as if it could not have any dirtier merchandise in it than Hops, and china and gloves. The people look clean; the children, those sure tell-tales as to the nature of their parents' employment, look clean. The houses are as a rule red brick with stone facings, and while in some streets half timber houses of the earlier Stuart times are yet to be seen, notably in a street called by contrast or perversity New Street. There is the ancient commandery of the knights, near there the house through which King Charles is supposed to have escaped. Old, very old, this place and others in New Street, but the city has yet on the whole a queen-amidst look, save near the fine Cathedral, when one's imagination goes back for hundreds of years. I am shown the Cathedral, and most beautiful it is; yet it is strange to see, as it were, a new cathedral all bright and new-like inside and out, for the old worn stone is gone and replaced by new. New the reredos, new the gorgeous pulpit, new the fine brass communion rails, new-looking even King John recumbent on his monument, for he is gilt. Beautiful instance and evidences of the generosity of Englishmen of the present era in restoring one of their churches is this Cathedral restored at a vast cost. Very beautiful also for situation is the Worcester Cathedral, standing high and clear, overlooking the broad bright Severn. But the windows are growing dim, and dimmer the light within, for daylight is dying fast, and sight-seeing must be given up perforce.

The next morning to my especial business. Crossing the Severn I am in that transpontine part of Worcester called St. John's, a district chiefly of houses inhabited by those who live by hand labour, not a close quarter happily, but roomy and rural. A mile beyond the river or about, I come to the nursery. This has a history. In the year 1804 Mr. Smith's father began with only a four-acre patch, presently ten more acres were added, and now 167 acres are under cultivation. The great broad drive which we enter is a mile in length, there before you it stretches and runs out like a very high road. The cross drive is seven-eighths of a mile, and altogether there are thirty-two miles of walks. We reach the office, in former days Mr. Smith's residence, but now needed for business—a pretty place, and most unlike the generality of offices where clerks do scribble and accountants tot-up the figures, for it is a creeper-clad villa with fine specimens of ornamental shrubs around.

Mr. Smith, myself, and Cox, the very capable manager of the fruit and Rose departments, proceed on our way. The first things that strike me are the good situation and good climate, the next on inspection the excellent soil so well suited to fruit trees.

As such prominence is given to Roses in our Journal, and out of love for the queen of flowers, I will speak of the Rose quarter first. It consists of 12 acres thickly planted with healthy trees, soon, for the selling time is near, to be scattered all over England. I will dwell upon a few which looked specially well as I stood among them late in September. First there is Dupuy-Jamain, light cherry-red, globular and vigorous, good to bloom, and late. It is a Rose I would greatly recommend for foliage, growth, and flower. This caught my eye very readily. Then second there was Capitaine Christy—a delicate, a very delicate hued Rose, light and fair with deeper centre; a Rose blooming well in autumn. Third there was La France, grand and durable, a friend in need, and it was a Rose a patch of which was always to be seen; not like some Roses, where a patch dies off in the distance from want of size and number of flowers. Fourth the Countess of Oxford, a bright carmine of fine form. Fifth Edward Morren, an English Rose, a crimson bedder. Sixth Comtesse de Serenye, a delicate shaded Rose, which opens well in spite of damp. Seventh Boule de Neige, white and pure, and so truly Camellia-like. Eighth Bessie Johnson, a Rose to which is now attached a tender memory, for the invalid after whom it was named is no longer with us. This Rose was in full glory. It is a very good Rose, and a good late bloomer. As a ninth that caught my eye I would name Mdle. Eugénie Verdier, a beautiful light-coloured Rose,

very beautiful in bud, extremely charming. Tenth I would mention Souperet et Notting, a Perpetual Moss; there are so few good Mosses, and this is very sweet, very double, and one thoroughly to be recommended. Eleventh must come Monsieur Etienne Levet, a fine crimson Rose, as good as possible of its class, and blooming this September grandly. Twelfth, for Sir Garnet Wolesey must be included in the dozen St. John's Nursery Roses that particularly struck my eye; he, the military-named Rose, showed up well. Thirteenth—but hold! I spoke of a dozen picked Roses; but there is such a thing as a "baker's dozen." Go into the first country parsonage you come to, and I warrant you will find "a baker's dozen of curly heads;" so still I say thirteenth Souvenir de Spa, the colour of Eugène Appert, but, unlike that velvety Rose, very full and globular. Such I would give as a short but very charming selection. Of course there were hundreds of others. Reynolds Hole I noticed, perhaps still the best of dark Roses; and President Thiers, a Rose which will help to a recent great statesman's name in our memories.

The Rose quarter at St. John's fairly surprised me, for I did not know that Mr. Smith gave so much attention to that flower, or so much room—12 acres to one flower. One seemed fairly surrounded by an array of Roses of all classes. Some for the Scotch markets, where very high standards are best liked, down to the lowest, the most being worked on the Manetti stock.—WILTSHIRE RECTOR.

THE VEITCH MEMORIAL FUND.

THE Trustees of the Veitch Memorial Fund have not during the past year offered any prizes at horticultural exhibitions, and the consequence is that they find themselves with a considerable balance in their favour, which enables them to make their trust more widely useful, and consequently to keep up greater interest in the memory of Mr. Veitch. They have decided this year to offer ten prizes, consisting of a Veitch commemoration medal and £5 each, to be given at ten provincial exhibitions as follows:—

BELFAST.—For twelve new Roses, cut blooms, sent out since 1873, inclusive.
BRIGHTON.—One bridal and one ball bouquet.
CLAY CROSS.—One dish of Peaches, one ditto Nectarines.
DUBLIN.—Three bunches of Muscat of Alexandria Grapes.
EXETER.—Collection of twelve vegetables, distinct.
HEREFORD.—Twelve new Roses, cut blooms, sent out since 1873, inclusive.
MANCHESTER.—Specimen Orchid.
READING.—Three stove or greenhouse plants.
WOODBIDGE.—Three stove or greenhouse plants.
YORK.—Three bunches of Black Hamburg Grapes.

We highly commend this way of diffusing horticultural interest by means of this excellent fund.

IN THE NORTH.—No. 4. GLASGOW.

THE Botanic Gardens I only hurriedly passed through, but I saw sufficient to make me ask my friend who went through them with me, Cannot the wealthy citizens of Glasgow afford something better in the way of glass? We all know what an excellent Curator they have in Mr. Bullen, but all the curators in the world cannot fight against badly constructed and dilapidated houses. The new nursery grounds of Messrs. J. & W. Thynne in the same suburb (Hillside) show that great care and skill are exercised in the management of the concern. Mr. McCullum, so well known to the frequenters of the Manchester shows, is doing much for it; and as the extension of building is going on considerably in that direction, each year will add to its importance. The houses were full of good plants in excellent health, but it would be needless to particularise where all is well managed.

On my way to Mr. A. B. Stewart at Rawcliffe Lodge I had to pass through Queen's Park, which comprises an elevated position from whence a good view of the city is obtained, and is carefully and tastefully laid out. It is in such places that ribbon bordering, carpet and embossed bedding, and sub-tropical gardening are in place. They give a blaze of colour and make a grand effect. They are in perfection when the people are most likely to frequent them, and the emptiness of the beds in winter and spring is not of so much consequence. One long ribbon border stretching the whole length of the terrace particularly struck me. It was composed of 1, yellow Pansies; 2, dwarf scarlet Tropæolum; 3, white Pansy and variegated Grass; and the centre blue Pansy. Such a ribbon in the south would be a dangerous experiment, but in this cool and

moist climate Pansies and Violas succeed to a degree that would astonish most southerners.

Mr. Stewart is well known as one of the most successful plant exhibitors in Scotland and the north of England, second only to Mr. Shuttleworth of Preston; and therefore one was quite prepared to find under the experienced care of his intelligent gardener Mr. Todd a grand collection of plants, and in this and its varied character I was not disappointed, while every arrangement was made for the well-being of the men employed. There is a capital working shed and an excellent reading room, with a good library of books both for instruction and amusement. There was a very nice collection of the Filmy Ferns, including some rare species of Trichomanes and Hymenophyllum, and some fine specimens of Todea; amongst them were fine specimens of *T. Banerianum*, *T. Luschnanum*, *T. nitidum*, *T. trichoides*, *T. reniforme*, *T. superba* and *pellucida*. Adjoining this was a small house containing some fine healthy specimens of *Nepenthes* and *Ixoras*. In the large Orchid house was a fine collection of Orchids and some choice stove Palms; amongst them *Brahea filamentosa* with its curious white filaments, *Phoenix*, and *Stewartii*. *Oncidium Rogersii* was very fine, as was also *Odontoglossum vexillarium* with six fine growths upon it, giving promise of great beauty. *Bertolonia Van Houttei* was also very fine. The *Azalea* house contained some grand specimens, and *Heaths* were cultivated with great care. Amongst them were some fine plants of *Eriocaulon Mutabilis*, *Shannoni Ventricosa grandiflora* and *Eppsii*, *Massoni*, &c., making one hope for a time when they might once more be in favour. Countess of Haddington *Rhododendron* was also very fine, and so were some of the Tree Ferns. I have seldom seen *Ouvirandra fenestralis* better done; the leaves were broad, and the laticing so very clear and well defined. The *Camellias* were a marvel of good cultivation. The plants were all planted out, and when in full bloom and about four thousand flowers out it must have been a grand sight. In this house was a plant of *Eucalyptus globulus* which had very soon outgrown the place allotted to it. The conservatory was exceedingly well arranged, and one part of it made into an artificial rockery with Ferns planted amongst it was very taking, and a long corridor with a fountain at the end and reflecting glasses was very beautiful. There were no fruit houses, as Mr. Stewart has a lovely place, Ossory Hall in the Isle of Bute, where this is grown, Rawcliffe Lodge being entirely devoted to flowers; and under the able superintendence of Mr. Todd there is no doubt that the good report which it has already obtained as the home of many valuable plants will be fully maintained.—D., Deal.

NEW BOOK.

The Fern World. By FRANCIS GEORGE HEATH. London: Sampson Low & Co., 188, Fleet Street.

ENCOURAGED by the success of smaller works on Ferns, "The Fern Paradise," and "A Plea for the Culture of Ferns," the author has produced the present volume. He has chosen a comprehensive title, and has written an agreeable book. His subject is popularly treated, the object, as stated, having been to "inculcate a love for the study of Nature." The volume contains chapters on Fern-hunting, descriptions of "Fern Land," with notes on the distribution and culture of British Ferns. It is illustrated with views of Fern-scenes in Devonshire, and the more familiar species of hardy Ferns are represented by coloured figures, which are sufficiently well executed to be recognisable. Here we observe a serious mistake: The letterpress facing plate 3 would convey the impression that the Royal Fern and Hay-scented Buckler Fern are there represented; No. 1, however, on the plate is *Athyrium Filix-femina*, and No. 2 *Lastrea Filix-mas*. An extract from the chapter on Fern-collecting will sufficiently show the nature of the work.

"Ferns may be freely taken up at any time. Where a Fern-collecting tour is decided on the collector should be provided with a small garden fork, a stout chisel, a hammer, a strong clasp knife, a trowel, and a covered basket made either of rush or wicker, or other receptacle for carrying the Ferns. Nothing so much promotes the rapid recovery of a plant after removal as the exercise of great care in getting up the entire mass of roots and rootlets. It must be remembered that it has often taken the rootstock a long time to develop its network of rootlets, which as they grew have penetrated into all the surrounding interstices of the soil or rock from which the plant derives its sustenance. If, therefore, the work of months is ruthlessly undone in a moment by the thoughtless tearing-up of the plant without its mass of root-feeders, it cannot be expected

that the same vigour will be immediately shown under cultivation as was before exhibited.

"It is especially in the removal of the rock-loving Ferns that the greatest violence is usually done to the plants. Most of the rock-growing species have very abundant, wiry, fibrous rootlets, which penetrate in a very remarkable way the stony interstices in the neighbourhood of the rootstock. It is often made a subject of complaint by Fern-collectors that the rock-growing species are more difficult than any others to establish under cultivation. But the difficulty arises chiefly from the circumstance which has already been alluded to. No doubt it is often a matter of difficulty to uproot the rock-loving Ferns, and it is for this work that a hammer and chisel are necessary, so that by the careful undermining and removal of the adjacent portions of rock the crown, rootstock, and rootlets of the specimen desired may be got out unharmed.

"Where by the careful process recommended Ferns are got out from their places of growth, damp moss or other moist material should be wrapped securely round their rootstocks and rootlets. In this way they can be conveniently carried to a considerable distance without any covering to the fronds, although if the air be very hot, dry, and sultry the fronds, if intended to remain on the plant, must, especially those of the most fragile or herbaceous kinds, be kept under shelter, as they would be if put into a covered basket or other convenient covered receptacle. In removing the larger kinds of Ferns, however, during the summer it may often be found convenient, especially where room for putting the specimens has to be economised, to cut off all, or at least the largest of the fronds, and to wrap in moss, or keep covered merely, the rootstocks and rootlets. When planted in the garden or other place of cultivation new fronds, as we have already said, will, if under favourable conditions, speedily be thrown up to supply the place of those removed. Where a tour is made in search of small specimens of Ferns it is best, after wrapping moss (which is generally to be found in the neighbourhood of Ferns) around each little root, to pack together, root side by side with root, the whole of the specimens. If a moist wrapper be then placed round them they will keep fresh for days, and even for weeks if occasionally looked at and sprinkled with water. If a quantity of reed straw be taken with the collector on a Fern-hunting excursion it will be possible to preserve the fronds of the larger species by putting the reeds on the ground in a line with the direction of the fronds, and rolling them round the mass of roots and tying them in that position. In this way the tops of the reeds standing out around the fronds will protect them from injury until they are safely disposed of in the garden at home. In collecting the rock-loving species of Ferns it is desirable when possible to detach a little portion of the rock, so as to avoid tearing off the rootlets of the plant.

"One important object in Fern collecting should always be kept in mind. Before removing a plant from its home, the soil in which it is growing, its positions as to shade or shelter, and the manner in which it has fastened itself to sloping bank, to tree fork, or to rifted rock, should be carefully noted; and the cultivator should then endeavour as nearly as possible to provide similar conditions of growth under cultivation. In this way many curious and beautiful lessons will be learned from the teachings of Nature."

FORCING SEAKALE.

VARIOUS modes of forcing Seakale are adopted, but the method I wish briefly to point out is the simplest, cheapest, and best I have found.

In the first place the ground is measured out in 5-foot beds with 2-foot spaces between the beds to form alleys, the soil is taken from these spaces 18 inches or 2 feet in depth and thrown on each side to form the beds, which are made firm at the sides with the spade to keep them from crumbling down. The beds are made level, and are then ready for the insertion of the roots. A trench or drill is chopped out at one end of the bed; the plants are placed in the trench about 2 inches apart and 6 inches from row to row, leaving 6 inches on each side of the bed. After enough has been planted for a batch fill the trenches with well-heated manure (which should be prepared beforehand) and treading it rather firmly into them. The beds will then be ready for covering over, which is done by bending bean or hurdle rods over the beds, placing the thick end on the outside of the bed, or rather into the trench, and tying the thin ends together to form an arch about 3 feet high. A covering of mats is then tied over the hoops; sometimes two or three coverings are used according to the weather. In very severe weather, or when the Kale is wanted quickly, a lot of long manure is used between the mats, the outside mats being secured to pegs driven into the sides of the beds to prevent the wind blowing the mats off; they are also tied to each other on the top.

By this treatment Seakale can be obtained in a month or five weeks. If too much is likely to be produced at once, or if it is required to keep some back, take off some of the covering, which will also improve the flavour of the Kale. It never tastes so earthy when grown in this way as when large quantities of manure and leaves are carted together to grow a few dozen heads quickly and too often poor and spindly.—J. P.

OUR BORDER FLOWERS—CROWFOOTS.

AMONGST the most beautiful of our border and spring garden plants are the Hepaticas. In years gone by they were classed with the Anemones, but now form a family of themselves that may be said to be always bright in sunshine or in shade—indeed, all the more beautiful in partial shade.

We are indebted to North America for these charming spring beauties. They are well adapted for all purposes that flowers and plants are required, for they are a very accommodating race. They are everybody's flower. Place them where you may—in pot, basket, rock or border, indoors or out—they afford us a pleasure that no other flowers can in the sunny days of spring. Then they are among the old, old border flowers, and planted in masses or in lines, alternating their colours, the effect is charming. Being evergreen they may remain as permanent plants, or be removed to make room for the summer occupants of the garden.

Of Hepatica the single kinds are increased by seed and division. The seed is best sown as soon as ripe in well-drained pots in a mixture of sandy loam and peat in a cool moist pit or frame. Patience will require to be exercised, for the young plants may not make their appearance until the following spring. They will require care in watering. When large enough they can be pricked out in pans or boxes as most convenient, affording a little shade in bright weather until established. The double varieties are increased by division in the autumn, that they may be ready for their work in the spring. They are rather impatient of removal, and are better when left where raised. They like a free soil, moderately rich; all the better if gritty. They should have efficient drainage. To see these plants where they are grown by the thousand for sale is a sight never to be forgotten.

The kinds most common in cultivation are the single blue and white, double blue and red. *Hepatica angulosa*, the largest of the race, is a most telling plant for all purposes, and is worthy of very extensive cultivation. It is to be regretted that we have not more variety in colours of these old favourite plants.—VERITAS.

FORK AND HOE.

THE benefits accruing from the liberal use of these tools are generally underrated. The primary use of the hoe is to uproot and destroy weeds. Its secondary use is to keep in moisture and admit the heat of the sun and air. A hard close soil dries much quicker, and is not so easily moistened either by irrigation or by rain. Plants grown in soil which is in a close and hard state always suffer from drought sooner than plants which are grown with a surface kept loose by hoeing. The reason of this is, that a compact surface evaporates moisture drawn from beneath by the force of capillary attraction less readily if there is some loose material on the surface. Everyone knows that litter or short grass strewn over a piece of ground will be the means of keeping that ground in a moist state, while an uncovered piece will be parched and dry during a long drought. A surface of loose soil acts in the same way, only less effectually. A well-hoed piece of ground admits the sun's rays more readily than an unhoed piece. This may be proved by the use of a thermometer. After heavy rain has battered the soil until it is quite smooth, and cracks on the surface after the rain is gone and the sun comes out, hoe a piece of ground which is exposed to the sun, insert a thermometer in it to the depth of 8 or 10 inches, insert one in an unhoed piece, and after the lapse of twenty-four hours examine the two thermometers, and you will have convincing proof that a loose surface favours the absorption of heat. The advantage of warmth in the soil we may pass over without remark, as almost anyone can tell whether plants thrive better in a warm or cold soil. I may remark, however, that a fresh surface in pots acts in the same way, and that a clean pot absorbs heat more readily than one covered with slimy matter, and at the same time retains it better.

Forking the soil has the effect of drying it in wet seasons

and of keeping it moister in dry ones. A soil deeply dug and well broken with the fork allows the free passage of water; and everybody knows, or should know, that a wet soil is a cold soil, and oftentimes sour to the bargain; and plants do not thrive in a cold sour soil. And though it may seem a paradox, a deeply-dug well-forked soil is always moister in a dry summer. When deep and loose, soil has the property of drawing water from the subsoil to a greater extent than when in a hard unpulverised state, and, as pointed out, retains it to a great extent if there is a loose upper layer.

A well-forked soil prepares the manurial matter in the soil much more rapidly than a hard solid one. It admits water more readily to dissolve the saline matters in the soil, and so enables the plants to absorb them. Pulverised soil admits air more readily, and it is only by the decay of manure that it is fit for food; and it is only when brought into contact with the air that it decays. Decay, in the case of ordinary manure, means that the substance is being converted into ammonia, carbonic acid, and the various salts, which may be called the foundation of the plant. These gases—ammonia and carbonic acid—are soluble in water, and pass into the system of the plant through the roots in this state. The roots also possess the property of taking in the gases without the medium of water; but if the air be not admitted freely the supply of these gases will be limited, as their formation at all depends on the presence of atmospheric air. While these gases are being formed the saline matter of the manure is set free, and so forking the soil tends to produce a free growth by indirectly furnishing the plant with food. Thus by causing a greater growth in the case of vegetables grown for their leaves an improvement of the quality is the result, to say nothing of the quantity. This greater growth causes greater succulency in such things as Spinach, Lettuce, &c. Forking the soil improves Potatoes very much. It does so in being the cause in wet seasons of drying the soil, rendering it warmer, &c., and we know that these conditions favour the production of Potatoes superior in quality to those grown on cold wet soils. I have seen Potatoes of fine quality dug from heavy soil, but which had been well pulverised, and wet waxy ones when the soil was left close and firm. Unless clay soil is well worked with prong and hoe good Potatoes are seldom produced.

The production of mealy Potatoes is greatly favoured by the use of the fork for another reason: a loose soil which admits the air freely encourages the production of carbonic acid gas. Now we know that the roots of plants take up this, and that it is decomposed in the leaves and rebuilt into a new compound or compounds. One of these compounds is starch. It is well known that the difference between mealy Potatoes and wet ones consists in the amount of starch contained in the cells of the Potato tuber. In the case of a mealy Potato, when viewed through a microscope, the cells are packed full of starch granules, while in the case of a waxy one these cells are full of water, and the starch granules are not nearly so abundant. When a Potato of this description is boiled the granules dissolve in the water and the Potatoes are waxy. In the other case the cells do not contain water enough to dissolve the starch granules, and so when cooked they assume the character of flourballs. Such are a few of the advantages of the free use of prong and hoe. It may be said that a full knowledge of their use, and that knowledge applied, constitutes good gardening, for the principles involved are applicable where the fork and hoe would be out of place.—ONE WHO HAS WHISTLED AT THE SPADE (in *The Gardener*).

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

KITCHEN GARDEN.

DURING the last week our time has been taken up with digging and trenching, also clearing away the fallen leaves from the walks and borders. The rains have made the walks sufficiently moist to enable us to clear off any weeds which have grown through the gravel. This ought always to be done before sweeping the paths, as it is generally necessary to draw the broom over the gravel even if a few weeds only have been pulled out. When the gravel is nearly dry the roller may be passed over it.

It is a good plan to have all the quarters and borders trenched or dug as early as possible, so that the ground may lie open to all the frosts of winter, and at any time that the surface is dry it may be lightly forked over. Besides pulverising the soil this exposes the larvæ of insects, &c., to the influence of frost and to the sharp eyes of birds. One remark is necessary here in

passing, and that is not to dig or trench when the ground is saturated with wet or when it is raining. We know a place where men are sent to trenching when it is too wet to do other work, and we have known men cutting the frozen ground with pickaxes and turning it over into the trench with a crowbar. A little forethought might alter this state of matters. In most large places work may be found for the men under glass or in the potting sheds.

We have previously written of earthing-up Celery and the manner of doing it. Those who have not yet earthed-up their main crops ought to do so at the earliest opportunity. The leaves and earthing-up material ought to be quite dry. We have known peat soil used to earth-up Celery, and it has answered well: this hint may be useful to those who have plenty of sittings of dry peat from the potting shed. Whatever is used in earthing-up ought to be prevented from falling into the heart of the plants.

When cold frames can be spared a quantity of Lettuce plants ready for use may be planted very thickly in them, so that they may be protected both from wet and frost. The lights should be removed during fine days and be tilted at the back on fine nights. We have advised covering Endive with boards, but as the season advances the plants suffer from frost and wet. Those who possess a dark cellar can blanch Endive very well. Lift the plants carefully with balls of earth and plant them closely together. This plan has also the advantage of the Endive being easily obtained when it is wanted. Should Lettuce and Endive be scarce Chicory roots will be plentiful if a few rows were sown about the end of May. The roots may be potted closely together in 10 and 11-inch pots. They will grow in any dark place in a temperature of 50° or 55°. The leaves should be a yellowish white when cut, and ought not to exceed 6 inches in length. The soil in the pots must not be allowed to become dry, else the produce will be tough. We have cut down the Asparagus, and carried away the stems where they will not again be brought back to the garden. They are densely covered with red berries containing seeds, which only require to come in contact with the earth to vegetate freely. The weeds have been removed from the beds, and decayed leaves have also been picked from Brussels Sprouts.

VINERIES.

We have not been doing much in this department except preparing the early houses for forcing and seeing that no decayed berries are allowed to remain on the bunches. We are constantly being asked about lifting Vines, either to transplant them to a new position or for the purpose of renewing the border entirely. Instructions for renewing the border were given two weeks ago. Lifting the Vines entirely is another thing, and we do not advocate this practice. It is seldom necessary to lift young Vines, and it will not answer to remove very old ones. If young one-year-old Vines are well managed they will in nine cases out of ten give the greatest satisfaction. We have planted Vines from small pots in March and trained up on the base of the cane from two to six shoots, and each of them has run up to the top of a rafter about 20 feet long the same season. A dozen moderate-sized bunches of Grapes could be taken from such a Vine the following season, and it would improve annually, whereas an old Vine, if the roots are entirely lifted out of the ground, would not show such rapid improvement. Those who are intending to purchase young Vines for planting will have their minds exercised as to the best varieties to plant. Were we confined to three varieties—and many persons do not care for more than this—they would be Black Hamburgh, Muscat of Alexandria, and Lady Downe's Seedling. Of course there are many other varieties, each having valuable distinctive qualities of their own, that ought to be in all large collections, and the Muscat of Alexandria requires a higher temperature than many persons can give it. If a high temperature could not be obtained some other white sorts would have to be included. Our choice is for Buckland Sweetwater, but it is right to say that many of our best gardeners prefer Foster's White Seedling. Dr. Hogg, raised by the late Mr. Pearson of Chilwell, is by far the best round white-berried sort with Frontignan flavour. In flavour it is not surpassed by any, and it is superior to all others of its class in bunch and berry. The vexed question as to whether Venn's Black Muscat or Black Muscat of Alexandria (Snow's Black Muscat) are distinct sorts has not yet been decided. We saw the two growing together at Chiswick the other day, and for all practical purposes they were alike. If there was any difference between them it was that the new sort was more badly shanked than the other. Alicante is a good late sort, and Clive House Seedling will probably be equal if not superior to it when it is better known. Those intending to plant should now select moderately strong well-ripened canes struck from eyes this year.

CUCUMBER HOUSE.

Strong plants were planted out two or three weeks ago in place of the old ones, which were destroyed. We would have planted earlier if another house had been available, as it is not easy to keep up a continuous supply if the old plants have to be removed from a house to make room for those that are to

follow. The only plan is to grow the young plants to a good size, shifting them on so that they may not be root-bound. We like the soil to be in the bed long enough to be well warmed, and the plants are put out without disturbing the roots. It is also an advantage to have the surface of the bed mulched with decayed stable manure; the spent dung from a Mushroom bed is as good as anything. Before planting them out we had the woodwork and glass thoroughly well washed. It is not possible to have too much light for Cucumbers. Insect pests must be kept from the leaves.

PLANT STOVE AND ORCHID HOUSES.

In this department plants are now pretty well at a standstill, at least hardwood subjects, such as *Ixoras*, *Dipladenias*, *Allamandas*, that are intended for summer flowering. It is not to be supposed that such plants flower only in the summer, as by a little management they may be had all the year round. With a dozen plants of *Ixora* of different sizes and species we have had trusses of bloom in every month of the year. It is merely a matter of heat and watering. At present we have three or four species of *Ixora* in flower, including *I. javanica*, *Colei*, and *Williamsii*; also *Dipladenia amabilis* and *Allamanda Schottii*. Should such plants be required to flower in June and July the temperature of the house should be now kept about 60° at night as a minimum with a rather dry atmosphere, and the plants to have water at the roots if they are likely to suffer. From the beginning to the end of January the plants should be pruned and be started in a temperature of 65° or 70°, and this should be increased as the season advances to 70° or even 75° at night. All plants that are showing flower or growing should be as near the glass as possible. Flowers are not only higher coloured but they last longer if they are allowed to open in juxtaposition to the glass, and the young growths formed close to it are the most satisfactory.

Orchids in all the houses are enjoying a season of rest. At this time of the year there is much danger of unduly exciting them into growth. Those requiring an East India temperature, such as the different species of *Aërides*, *Saccolabiums*, *Vandas*, and *Phalenopsis*, do best when the sphagnum is kept in a growing condition on the surface of the pots; and as the time has now come when water must be withheld to a certain extent, the moss is apt to die. Our plan is just to give sufficient water on the surface to keep the sphagnum alive, taking care that the water does not go deep into the compost. *Cattleyas*, *Lælias*, &c., at this season may go for two or three weeks at a time without water if they are in pots; when on blocks they require water almost daily. *Dendrobium nobile* for summer flowering has been placed in a greenhouse temperature. Other species from warmer climates are also at rest, the East Indian species in a temperature of about 55°. The cool house has also been reduced in temperature; it is now about 45° to 50° at night. Here *Masdevallias*, *Odontoglossums* of an alpine character, and the Mexican *Oncidiums*, such as *O. macranthum*, flourish in the moist cool atmosphere, and they seem about right when the leaves are fringed with dewdrops glancing in the morning light. Now is the time to eradicate all insect pests. It is dangerous to fumigate for the destruction of green fly and thrips; but if the houses are lightly fumigated for three nights in succession, supplementary to washing the leaves with soapy water, these pests will be disposed of. Wash all plants infested with scale and mealy bug.—J. DOUGLAS.

TRADE CATALOGUES RECEIVED.

E. G. Henderson & Son, Pine-Apple Nursery, Maida Vale, Edgware Road, London, W.—*Catalogue of Fruits and Roses, Shrubs and Hardy Climbers.*

Richard Bradley, Halam, Southwell, Notts.—*Catalogue of English-grown Camellias, Rhododendrons, Forest and Fruit Trees, &c.*

J. J. Van Loghem, Haarlem, Holland.—*Wholesale Price List of Dutch Flower Roots.*

André Leroy, à Angers (Maine et Loire), France.—*Catalogues of Fruit Trees, Seeds, Bulbs, and Plants.*

Hogg & Robertson, 22, Mary Street, Dublin.—*Catalogue of Fruit and Forest Trees, Conifers, Evergreens, Roses, &c.*

Eugène Verdier fils aîné, 37, Rue Clisson, Gare d'Ivry, Paris.—*Descriptive List of New Roses.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three

questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

POOR PEOPLE'S GARDENING (*A. L. B.*).—If you will prepare a little pamphlet and have it printed we will publish it.

BULBS (*R. W. N. F.*).—Our "Greenhouse for the Many," price 9d., contains full directions for their culture.

ORCHARD HOUSE (*J. C. G.*).—You can have Mr. Pearson's book on "The Orchard House" if you enclose twenty postage stamps with your address. The sized house you mention would be small. Dwarf-trained trees require much attention, and, of course, bear less fruit than larger trees.

TREATMENT OF STOVE AND GREENHOUSE PLANTS (*Amateur*).—The treatment of most of the plants you name have been given in previous numbers of the Journal. *Fuchsias* would not be safe in a cold frame during the winter, but the tuberous-rooted *Begonias* would if the pots were plunged. *Lilium auratum* would do well plunged in a sheltered place out of doors. But you want so much information that it would be best to obtain the manuals published at this office on the subjects.

TREATMENT OF ROSES IN POTS (*A. W. H.*).—They ought to be pruned according to the time they are wanted to flower. If you want them to flower early you must prune early. If they are to flower late, say in the early part of June, prune about the end of February. It is not wise to prune them immediately they are potted, better to wait a week or two until fresh roots are formed. You may dig Roses up from the open ground now and pot them. Water the pots in winter just sufficient to prevent the soil becoming dusty dry, and when the plants commence growing in the spring gradually increase the quantity. Roses out of doors may also be moved any time this month.

BOTTOM HEAT FOR CUCUMBERS (*R.*).—We fancy the water does not circulate very freely in the pipes, else the flags would be sufficiently warmed to heat the compost. Our beds, in which the plants bear freely all the year round, have a foundation of bricks over two 8-inch pipes. They give us a bottom heat of about 85°.

HYACINTHS IN GLASSES—ROSES FAILING (*R. N.*).—Two or three lumps of charcoal keep the water pure in the glasses. A fourth part of decayed cow manure should be added to the soil for *Hyacinths* in pots. Roses on their own roots or budded on the seedling Briar would do better than standards in your soil. You should get the most robust varieties of Hybrid Perpetuals. The best time to prune *Rhododendrons* is in March, but they will not do well if you cut them back to the old wood.

PLANTING VINES (*Civil Servant*).—We have sometimes found that old Vines do not transplant well, and in many cases it is better to plant young ones. Your Vine may not be very old, and you may be able to lift it with a large portion of fibrous roots attached; in that case you might try it again. Transplant it at once. For a house like yours plant only Black Hamburgh; but if you want a white, Foster's White Seedling is the best. We have not tried the heating apparatus of which you enclose a drawing, but rather like its appearance. It is dangerous practice to have the fire inside the house. The cheapest way for you would be to build a flue through the house, carrying it along the front and round the back.

HARTLEY'S PATENT GLASS FOR GREENHOUSE (*Subscriber*).—We would prefer the clear glass for some districts; but as you have proof that plants can be grown well under the patent glass, and as shading may be dispensed with, why not try it?

TREATMENT OF THE SEEDLING BRIAR (*Seybor*).—Sow the hews either in autumn or spring in light friable soil; it need not be very rich. Some of the seeds will vegetate the following summer, and some the next season. The plants will be small the first year—you may grasp two hundred of them in one hand. If these are planted out in November they may be budded the following autumn close to the ground. As you have been unfortunate you might purchase a few hundreds; they are sold at 1s. 6d. per hundred.

SOLANUM CAPSICASTRUM BERRIES POISONOUS (*Subscriber*).—Although perhaps not positively deleterious, we should yet be inclined to regard them with suspicion. Dr. Hogg in his "Vegetable Kingdom," page 551, states—"The fruit of *S. pseudo-capsicum* has been supposed to be deleterious, but M. Duval says they are not so, for a dog which swallowed thirty of them, out in pieces, sustained no injury." This is a near ally of the *S. Capsicastrum*, and whether the berries are poisonous or not, their taste is such as not to recommend their use. Be cautious.

PRUNING SHRUBS (*M. S. Bowen*).—Now is the time to cut down old Laurels and shrubs of a kindred nature. You may cut Laurels and Holly down to the ground, and they will throw up young growth next season as plentifully and vigorously as an Ash or Chestnut. *Laurustinus* if healthy bears pruning well, and is improved by it. Your old Roses may be pruned now or upon any suitable weather during winter. Your *Cyclamen* is *C. hederifolium*, a native of Europe, growing abundantly near the shores of the Mediterranean. It is perfectly hardy, and the tuber under favourable circumstances is sometimes a foot in diameter, the leaves being then much larger than those you sent us.

CUTTING OFF LARGE LIMBS FROM OLD TREES (*South Devon*).—It is never advisable to cut off large branches unless they become broken and are likely to decay. The best treatment for your Elm, which has suffered so severely in the late storm, is to cut all the stumps clean off close in to the stem, and to give the wound an immediate dressing of hot glowing mastic, and taking due precaution to have it thoroughly covered so as to exclude air, and thus afford the best possible chance for the wound to heal. No harm is likely to arise from branches broken asunder at some distance from the bole, all such being likely to put forth new growth next season, and you may safely consult your own taste as to retaining them. The best mastic for the purpose consists of 1 lb. of Burgundy pitch, 4 ozs. of black pitch, 2 ozs. of yellow wax, 2 ozs. of rosin, 2 drachms of mutton suet, all thrown together in an iron pot melted over a fire and applied hot with an ordinary paint brush.

MAIDENHAIR FERN (*W. H.*).—The old fronds should be cut off as they fade, but we prefer leaving them on for a time to shelter the young growth when the plants are exposed to the strong light of a plant house. In a shaded fernery such shelter is, of course, unnecessary. The Fern you send is *Pteris serrulata*.

YEW HEDGE (*Tyro*).—As you trenched the ground and enriched it when you planted the hedge two years ago, it can hardly require a surface-dressing yet. A mulching of manure would, however, serve to attract the roots into the best soil near the surface, and check excessive evaporation of moisture in summer, and so prevent injury from drought. Plant nothing within a couple

of yards of the hedge, and see that the roots of neighbouring trees or shrubs do not steal into the enriched soil and impoverish it.

TAXONIA VAN-VOIXEMI SHEDDING ITS FLOWER BUDS (L. P.).—Look to the roots; they have either been kept too dry or too wet, most probably the latter, as the foliage and growth is healthy. When growth ceases and the plant is at rest trace out as many roots as you can, lift them, remove all the old soil and replant in a mixture of loam that is naturally very fertile or made so with old hotbed manure. Powdered charcoal, mortar rubbish, broken bricks, and road scrapings—anything in fact that will make a free, rich, sweet, open soil. Beneath this place 6 inches of broken stone or brick with a 2-inch drain-pipe continued to the nearest outlet, so as to render any subsequent accumulation of stagnant water impossible. Thin-out and shorten the branches, and next season you will have plenty of blossom.

COAL ASHES FOR HEAVY SOIL (Idem).—The gardener who told you that coal ashes would "poison the soil" is mistaken. Put on all you can obtain, and use no sand. Drainage, plenty of manure, and heavy dressings of coal ashes with frequent stirring is the very best treatment for all soil of a close heavy texture. It is by such simple means that we have converted a comparatively barren soil into a high degree of fertility and productiveness. If you have not already made drains now is the best time for the work; make them of 2-inch pipes 4 feet deep and 30 feet apart, with 4-inch main drain.

GLOXINIAS UNHEALTHY (A Young Beginner).—A soil formed of peat and sand with a little loam is wrong, and is probably the cause of your failure. Use two parts of rich old manure and one part each of turfy loam, peat, and sand. Mix this thoroughly but do not sift it, rather leave it in a rough condition with plenty of pieces of an inch in diameter. Use broken tiles freely for drainage, press the soil firmly about the tubers, attend well to watering, always having the water of the same temperature as that of the house in which the plants are growing, and when the flower buds appear give weak cowdung water regularly. Gloxinias never answer better than when grown under the shade of Vines, and your brown foliage may in some measure be attributable to exposure to the full glare of the sun, or to the attacks of thrips or red spider.

SOIL FOR GARDENIAS (Idem).—These plants answer well in soil consisting of a mixture of sandy peat and leaf soil, or old hotbed manure. After the flowers fade the plants are taken from the conservatory into pits, where they remain till the repotting takes place, which is usually about a fortnight before placing them in heat; then plunge them in a mild bottom heat, gradually increasing it as the plants make growth. As the earliest batches come into flower they are taken to the stove, and when their flowers fade the plants must, of course, be gradually hardened before being taken back to the pit.

CLEODENDRON BALTICUM (Idem).—To flower in July, the plant now in bloom should be kept somewhat dry after the flowers fade. Early in February prune away as much of the spent growth as you can, shortening and thinning the remainder. Syringe regularly, give more water to the roots, keeping the plants in a steady temperature of 65° to 70°. Just as the young growth appears shake out and repot in soil of two parts old hotbed manure, two parts turfy loam, and a fair admixture of sand and powdered charcoal. Take especial care about drainage, 2 inches of broken crocks is not too much. After repotting do not overwater, but when the shoots are a few inches long the roots will be pushing freely into the fresh soil; then water copiously and encourage a free strong growth till May, when less water must be given to give a check to the growth and induce the formation of flower buds, which should make their appearance abundantly by the beginning of June.

PAINT PERISHING (J. F. K.).—We can quite sympathise with you, it almost seems like labour in vain to paint a plant stove, exposed as the roof is to the cold of winter and heat of summer. We know nothing to prevent the paint from perishing. If something could be invented it ought to be a fortune to the discoverer.

PRESERVING LATE GRAPES AFTER BEING CUT (H. Borland).—We cut all our Lady Downe's Grapes about Christmas. The bunches are cut with as long a stem as possible. The stem is then inserted in a bottle of clear water kept sweet by a few lumps of charcoal. The bottles are suspended in a sloping position so that the bunch hangs clear of the bottle. They must be kept in a dry room from which frost is excluded. We have kept them good in this way until the end of May, a period of five months.

HEATING A SMALL GREENHOUSE (W.).—The plants you name would not be injured if the thermometer fell occasionally to the freezing point. Any of the small stoves advertised in this Journal would answer to heat it.

LIST OF PEACHES AND NECTARINES (J. E.).—The best selection would be three trees of Hale's Early, two of Royal George, two of Noblesse, two of Walburton Admirable, one of Princess of Wales, one of Alexandra Noblesse, two of Dr. Hogg, and two of Early Louise. The best Nectarines in your list are Stanwick, Elrage, Fine Apple, Large Elrage, and Victoria.

WHITE FUNGUS IN MANURE (Manx Cat).—We cannot tell whence the spores come which produce the fungus. Quicklime or common salt mixed with the manure might prevent its appearance.

NAMES OF FRUITS (T. S. G.).—1, Norfolk Beefing; 2, Dumelow's Seedling; 3, Wyken Pippin; 4, Cobham; 5, Braddick's Nonpareil; 6, Not known (E. P. S.).—Tower of Glamis.

NAMES OF PLANTS (Lady Ring).—Specimen insufficient. (J. P.).—1, *Veronica salicifolia*; 2, *Arctium Lappa*; 3, *Chenopodium Bonus-Henricus*. The insect is a thrips. (M. Fisher).—1, *Sedum Sieboldii*. The specimens of Ferns are very incomplete. 2 May be *Athyrium Filix-femina*; and 3, *Polypodium cambricum*.

POULTRY, BEE, AND PIGEON CHRONICLE.

PORTSMOUTH ORNITHOLOGICAL SOCIETY.

It will be remembered by many of our readers that the Managers of the last Portsmouth Poultry Show did not pay some of the winners their prize money, and this in the face of unusual attractions concerning their payment which the schedule offered. To obtain their dues several exhibitors placed the Committee in the County Court and obtained their money with costs. There are, however, others who did not like to take such steps, and to them a great part of their money has never been paid. Such will be glad to hear that there is yet

a chance of their receiving their prizes, for we learn that a short time ago a meeting was held at the Sussex Hotel to take into consideration the financial position of the Portsmouth Ornithological Society, and to discuss such measures "for the credit of the town" as might be deemed necessary for the discharge of the liabilities incurred and outstanding in respect of the last Show. The Mayor (W. Pink, Esq.) presided at the meeting, and among the number present were Messrs. Good, Cunningham, Cudlipp, Charpentier, Groom, Boots, Wise, Nicholson, Sparks, Simmonds, Westcott, &c. We learn that the Secretary of the Society affirmed that the liabilities amounted to £184 15s. 10½d., and the Treasurer said that the assets only came to £5 17s. 2d. The Mayor remarked that the Working Committee, when they saw the position of the Society, should not have paid some claims in full and some not at all. The Secretary and Messrs. Wise and Westcott also gave their ideas as to the non-success of their Exhibition. The Mayor then addressed the meeting at some length, and said that he "had taken the liberty of asking their attendance that evening to consider the best means to defend and preserve the credit of the borough in this present crisis of the Ornithological Society. There had been small losses on the first and second years, and the Society naturally thought they might make one more effort to clear off the debt and have a small balance to go on with. From what he had seen of the Working Committee everything appeared very hopeful, and he would give the members all credit for doing everything in their power to make the affair a success. In fact, no one could blame them for making the effort to regain their position after the losses of the previous years. Unfortunately the result was a very heavy loss indeed, making a total for the three years of £184 15s. 10½d. Although personally he would be very sorry to admit any liability, nor did the Managing Committee wish it, he did not like to see the Committee being constantly subjected to actions in the County Court. He, therefore, thought the best plan would be to call a meeting and see whether they could not devise some means to meet the creditors, and ask them, under the painful circumstances, to be as lenient as possible in their accounts, or in some way assist the Society to liquidate the debt. If the Committee were to be left open to County Court actions the £184 would soon amount to £260, besides lowering the dignity of the borough and preventing public spirit being shown on future occasions. For his own part he scarcely knew what scheme to suggest, except paying the hard cash out of their own pockets, and if that were done he would gladly bear his share."

Mr. Cunningham then moved that the Mayor should apply to Sir Frederick Fitzwygram for the purpose of obtaining Leigh Park, in which to hold a fête in aid of the Society. This proposition was seconded by Mr. Wise and agreed to by all. A subscription list was then opened, when the Mayor promised £5; Mr. Cudlipp, £2 2s.; Mr. Good, £2 2s.; Mr. Collinson, £2 2s.; Mr. Charpentier, £2 2s.; Mr. Cunningham, £1 1s.; Mr. Cante, £1 1s.; and Mr. Reading, 10s. 6d., which would at once increase the assets from £5 17s. 2d. to £21 17s. 8d., or nearly one-eighth of the total of their liabilities. Afterwards a Committee was formed for the purpose of collecting subscriptions, and the Mayor announced that he would receive donations on behalf of the Society.

We are delighted to hear the Committee have had this meeting, and hope they may have a successful fête, and so be enabled to get some money in hand wherewith the Ornithological Society may once more be brought into life, for we cannot but think that with judicious management such a Society should flourish in Portsmouth.—W.

BLACK HAMBURGS.

Of all the well-known breeds of fowls, this, perhaps one of the most useful, beautiful, and profitable, is less known, and has been, with few exceptions, less described than any other. It has been in this country so difficult to obtain in its full purity, that many of its most ardent fanciers have despaired of ever getting satisfactory birds, and abandoned the pursuit. So-called Black Hamburgs, believed, too, to be such by their owners, can be bought; but the connoisseur can see that they are from a made strain, fashioned generally by crossing the Black Spanish and the Golden-spangled Hamburgs, or else by keeping and interbreeding the darkest Golden or Silver-spangled Hamburgs, and from pure black birds thus bred again interbreeding until the black is perfected. The Spanish cross can be detected by the birds throwing single combs in about a third of the hatch of the season, and also by the combs becoming inordinately large, the ear-lobes long instead of round, and the cocks being rather squirrel-tailed; the birds are, however, finely formed, and the lustre of the feathers equal to that of the Spanish, but rather bluish in tint. The birds bred from dark Hamburgs are very coarse about the combs and heads, thus showing degeneracy, and upon examination in the bright sunlight an iridescent spangle can be discerned in the wing-shafts. No less an authority than Mr. Tegetmeier has cited this last peculiarity as a

characteristic of the pure breed, but it should never be present in a well-bred bird, and when it appears the bird will almost certainly be found to have originated in the Golden or Silver-spangled Hamburg. The true Black Hamburg is a bird whose pedigree, in its purity, long antedated the poultry fancy, and originated in the home of all the Hamburg varieties—Lancashire and Yorkshire. It is the largest of the Hamburgs, and although perhaps not so great a layer as the pencilled bird, lays eggs so much larger that the difference in quantity is made up. The pure bird should be black throughout the feathers, and when in condition the lustre on all the feathers is indescribable, the metallic hue having almost a peacock brilliancy in the sunlight. This hue should never be anything but greenish, although old cock birds sometimes get a coppery tinge, and a bluish tinge is suggestive of a cross. The comb should be of moderate size, with a very long spike turning upward, the wattles and ear-lobes of cock and hen being round, not elongated, and the ear-lobes intensely white and very smooth. The surest indications of purity of blood are the greenish lustre of the plumage, smallness and neatness of the comb, compactness of feather, redness of face, and more than all, narrowness of the back of the head. The last is an almost unfailing indication. The combs are very difficult to obtain of proper shape, the points being often twisted or absent, and the comb itself being very apt to sag over on one side; yet, with all this difficulty in rearing to a proper standard, the bird, from its great beauty, prolificacy, and general useful qualities, has never liked admirers, and the proof of this is the great price a cup bird will bring in England. A very fine cock is so scarce that it is not uncommon for one to be sold for a sum equal to \$100, and the Crystal Palace cup cock of 1875 brought \$400. The most celebrated strain in England is that of the Rev. W. Serjeantson, and such has been the danger of contamination that it is said the strain has never been crossed, the owner preferring to breed together birds of his own strain distantly related rather than injure the strain by any base alloy. Mr. Beldon, the celebrated Hamburg breeder, has sent to this country some very fine birds of his own strain, but as he has not obtained the cup for the best birds of this variety at any of the later great English shows, some of the other well-known strains in England are probably superior. It is greatly to be regretted that the very large prices asked for genuine Black Hamburgs has prevented the importation of very high-class birds, but the difficulty of rearing the variety in its perfection will probably keep up the price and the demand. The variety is of very great merit, and as it possesses, in addition to the beauty of the other Hamburgs, the extra qualifications of size and hardness, is justly regarded as a great addition to the poultry yard, and should be better known. Except perhaps the Silky and Sultan varieties, it is the rarest bird in its purity in this country, and it is to be hoped that the same enterprise which brought from the English breeders to this country so many of our valued strains of other varieties of poultry will be devoted to the importation of this, which is certainly fully the equal of any known, either as a useful or beautiful variety for farmer or fancier.—(*American Pet Stock Bulletin*.)

GIVING OIL TO A BIRD.

IN last week's *Journal of Horticulture* "M. H." is recommended to give his Canary a drop of cod-liver oil by opening its beak and dropping the oil into its throat from a large needle or bodkin. I tried to administer castor oil to a Virginian Nightingale and another bird in this way, but in each case the bird died within a few seconds. No doubt they were unable to swallow with the beak open, but the suddenness of death was remarkable. Another plan of administering castor oil I have seen somewhere and found to be safe and effectual. It was this:—Keep the bird without water for a time (two hours?), then put a drop into the water fountain. The bird in drinking takes the floating oil first, and apparently without much noticing anything unusual.—H. T., *Humshaugh*.

SOUTHWELL SHOW OF POULTRY, &c.

THIS Show is making excellent progress, the number of entries increasing year by year, this time coming almost up to four hundred. *Game* headed the list, and there were some good birds, a great improvement in fact upon those of last year. The winners in the Black and Brown Reds, and the Piles first in the variety class, were very good in all respects. *Cochins*.—Buff very good old birds; the hens slightly pencilled on the necks, but of a good shape and well feathered. In the next class *Partridge* were first and third, and Whites second. *Brahmas* a mixed lot and very good. The winners *Dark* in the first, second, and third. The first a grand pair in colour and marking. *Dorkings* were large but somewhat uneven, some bad on feet and others scarcely moulted. *Creve-Coeurs* were a class such as is rarely seen in size, correctness of comb, and crest. A pen of *Minorcas* were very highly commended in this class, though not strictly a French variety. *Houdans* had two classes. *Cocks*

were a capital lot, old birds carrying off the prizes, and being a strong class those correct in comb were selected as the winners. Hens a fine lot and well shown. *Hamburgs* were unfortunately Gold and Silvers in each class, a system we cannot sufficiently condemn. *Game Bantams* were very good classes. The winning Black Reds were a superior pair; the second stylish, but the cock somewhat out of colour; the third rather large, but otherwise very good. In Brown Reds were some very good ones, especially the pullets. Any other *Game*, first and second *Duckwing*, the first a most stylish bird; second cockerel excellent in style and colour, but pullet not equal; third smart *Piles*, not one clean. Variety *Bantams* very poor. *Ducks* were very good in Rouens and Variety, but *Aylesbury* were poor. The Selling classes were large and good.

Pigeons.—Carriers poor with the exception of those noticed; but the winners were very good—first *Dun* and second *Black*. In *Pouters* first was a capital *Blue*, second and third *White*. In *Dragoons* the Mansfield loft carried off the prizes, and these were very good—*Blue*, *Yellow*, and *Blue-chekquered*. *Tumblers*.—First a good *Almond* cock, second *Blue Bald*, and third a grand-headed whole-feather. *Jacobins* about the best class of the Show. The winners were *Reds*. Some exceeding neat *Fantails* were shown; *Magpie*, *Nun*, and *Swallow* were very good and the competition keen. *English Owls* a fair class, and *Antwerps* a moderate lot. The Variety class was a good one. An *African Owl* was placed first, second a grand *Fairy Swallow*, third a *Satinette*, fourth a *Blondinette*, and fifth also.

POULTRY.—GAME.—*Black Reds*.—1, G. Doubleday. 2, Miss A. Spence. 3, A. Cameron. *Brown Reds*.—1, R. Swift. 2, W. Rudd. 3, Lord Louth. *Any other variety*.—1, W. & R. Smith. 2, J. Cox. 3, Barnesby & Heath. *COCHINS*.—*Cinnamon or Buff*.—1 and 2, W. A. Burnell. 3, C. M. Stickens. *Any other variety*.—1, 2, and 3, W. A. Burnell. 3, G. W. Henshall. *BRAHMAS*.—*Light or Dark*.—1, H. Liegwood. 2, L. C. C. R. Norris. 3, W. Thorne. *DORKINGS*.—1 and 3, B. Smith. 2, S. W. Hallam. *vhc*. B. Smith, H. Woods. *CREVE-COEURS*, OR ANY OTHER FEATHER VARIETY EXCEPT HOUDANS.—1 and 2, J. Ward. 3, R. B. Wood. *vhc*. W. Thorne. *HOUDANS*.—*Cock or Cockerel*.—1 and 3, R. B. Wood. 2, S. W. Thomas. *vhc*. W. Hamlyn, H. Meredith, R. A. Boissier. *Hen or Pullet*.—1 and 2, R. B. Wood. 3, A. Ogden. *vhc*. W. Hamlyn, R. A. Boissier, W. O. Quibell, J. E. Pilgrim. *HAMBURGERS*.—*Gold or Silver-pencilled*.—1, C. W. Gibbs. 2, G. Morris. 3, H. Kyme. *vhc*. J. Smith. *Gold or Silver-spangled*.—1, J. Jackson. 2, H. Pickles. 3, S. May. *BANTAMS*.—*Game*, *Black Reds*.—1, Miss K. E. Swift. 2, W. F. Entwistle. 3, E. Barker. *Game*, *Brown Reds*.—1, 2, and 3, W. F. Entwistle. 2, S. Beighton. *vhc*. S. Beighton, R. Swift. *Game*, any other variety.—1, W. F. Entwistle. 2, S. Beighton. 3, W. N. Hudson. *vhc*. T. Collins. *Any other variety*.—1, J. Calladine. 2, R. H. Ashton. 3, T. Birch. *DUCKS*.—*Rouen*.—1, E. V. Snell. 2, 3, and 4, *vhc*. W. Bygott, jun. *Aylesbury*.—1 and 2, E. V. Snell. 3, Mrs. Hole. *Any other variety*.—1 and 2, A. & W. H. Silvertown. 3, Rev. A. S. Webb. *vhc*. Mrs. Savill (3). *GEESSE*.—1, E. V. Snell. 2, B. Smith. 3, G. Atkinson. *SELLING CLASSES*.—1, W. A. Burnell. 2, R. Hill. 3, J. H. Watkins. 4, W. Henshall. *vhc*. T. S. Clarke. *CORTEAES'S CLASS*.—1, R. Spick. 2, Mrs. Biagham. 3, R. Morley. 4, T. Gascoigne. *vhc*. H. Coddington.

PIGEONS.—CARRIERS.—1 and 2, J. Chandler. 3, H. Parker. *vhc*. C. Cook. *PORTERS*.—1, J. E. Crofts. 2, J. Hawkins. 3, W. F. Footitt. *DRAGONS*.—1, 2, and 3, R. Woods. *vhc*. C. A. H. Pearson. *TUMBLERS*.—1, H. Yardley. 2, J. C. Taylor. 3, M. Weston. *vhc*. J. C. Taylor, H. Yardley. *JACOUBS*.—1 and 3, R. B. Wood. 2, L. Allen. 3, H. Yardley. *FANTAILS*.—1 and 2, J. F. Loversidge. 3, T. Hives. *TURBITS*.—1 and 3, R. Woods. 2, J. G. Tomkinson. *vhc*. J. Chandler. *MAGPIES*, *SWALLOW*, OR *NUN*.—1, 2, and 3, R. Wood. *vhc*. H. Yardley. J. E. Crofts. *OWLS*.—*English*.—1, L. Allen. 2, 3, and 4, H. Parker. *vhc*. E. Lee. *ANTWERPS*.—1, H. Yardley. 2, J. Chandler. 3, W. H. Butler. *ANY OTHER VARIETY*.—1, J. Hawkins. 2, J. E. Crofts. 3 and 4, A. & W. H. Silvertown. 5, H. Yardley. *vhc*. H. Yardley, R. Hill, J. E. Crofts. *SELLING CLASS*.—1, R. Hill. 2, J. Chandler. 3, W. H. Butler. 4, J. F. Loversidge. *vhc*. H. Yardley, A. F. Byford, R. Hill, J. C. Tomkinson.

JUDGE.—Mr. E. Hutton, Pudsey.

STEWARTON-HIVE SYSTEM.

THE results of my experience with the Stewarton hive in the splendid season of 1876 were duly chronicled in the *Journal of Horticulture* last autumn. I then obtained from a single colony 144 lbs. of super and 6 lbs. of slung honey, a harvest not exceeded, as far as I was able to ascertain, on any exhibition in the kingdom. The past summer has been an unfavourable one here as elsewhere. The crop of white clover was abundant, but owing, I presume, to the presence of a dry easterly wind during the greater part of the time whilst it was in blossom, it never seemed to yield any supply of honey, so that though the fields were white with clover, the bees appeared to be comparatively inactive, and this was characteristic of the summer during the entire season. A little more briskness was observable when the lime trees were in blossom.

The colony above alluded to has, however, yielded a harvest of 63 lbs. of fine super honey. As I only keep bees for amusement, and never sell either wax or honey, I am content with a small number of stocks, and never now retain more than four or five hives for the winter. Having thus only a very limited number of hives from which to make a selection, I think that the success which has been attained is sufficient to demonstrate the excellence of the Stewarton system. The supers have been uniformly free from all trace of brood or pollen, and the use of perforated zinc sheet to exclude the queen from the supers appears to be quite unnecessary. I do not wish to lead beekeepers to suppose that these results are solely attributable to the Stewarton hive, as although I do not believe that a better system of management has hitherto been devised, I am quite aware that a hive of this description would be comparatively valueless in the hands of an ordinary cottager, or of any beekeeper who was unwilling to take the trouble of carefully looking

after the bees, anticipating their requirements, and judiciously carrying out the instructions so fully given by "A RENFREWSHIRE BEE-KEEPER."—J. E. BRISCOE, *Albrighton, Wolverhampton*.

COMB FOUNDATIONS.

It is pleasing to find at page 335 "the captain on the paddle-box." Mr. A. Pettigrew, like a second Rip Van Winkle, arousing himself after a fifteen-years slumber, with a piece of comb foundation in his hand, beginning to take stock of the march of apian progress during that period; and on the same page Mr. P. H. Phillips confirmed the opinion I expressed last spring as to the Ligurian bee "being first to scent the new flower and first to alight on the treasure trove." I remember perfectly the beautiful orange colouring of the Italians which they on the first day of their arrival displayed busily at work on the scarlet monarda, a flower I never saw visited by our old black aborigines.

As to the wax sheet, for the sake of historical accuracy it becomes necessary to explain to Mr. Pettigrew as well as the recent subscriber that the above invaluable production was not, as he supposes, of American but German invention. I first saw it in 1862, when the late Mr. Woodbury enclosed a small portion in a letter for my inspection; and to the enterprise of Messrs. Neighbour & Sons, London, entire imported sheets found their way into Scotland the same year, and the idea at once spread like wildfire. Were a mould once devised the advanced bee-keeper for a consideration could not alone save the condemned bees of the skepists, but utilise their bruised-up irregular combs, passing such through the machine to re-appear as straight regular guide-comb foundations for frame hives and bar supers. Numberless were the schemes and endless the materials called into requisition to effect the purpose, such as paper, wood, stucco, gutta percha, lead and other metals; but "honour to whom honour." To that most ingenious apian "A LANARKSHIRE BEE-KEEPER" is due the credit of being the first in the United Kingdom to invent a pair of plates which could cast embossed wax sheets to vie with the imported, and to his energy in their manufacture is to be ascribed the rapidity with which they became an indispensable requisite in every well-managed Scottish apiary. It was not till the Crystal Palace Show of 1874 that our southern brethren discovered how far we northerners had outdistanced them for straight work, and that the wax sheet and its manufacture became diligently inquired after.—A RENFREWSHIRE BEE-KEEPER.

BEE-KEEPING EXPERIENCE.

I HAVE completed my first year's experiment in bee-keeping on Mr. Pettigrew's system with tolerable success. Last year I formed seven stocks from swarms obtained from my villagers in September, all of which came safely through the winter, and this season reached weights from 44 to 64 lbs., the heaviest being in an 18-inch hive, the others in 16-inch hives.

This autumn I have formed three new stocks of two swarms each. It is about these I ask your advice. They took syrup well enough at starting, but gave up before they reached a good weight. On weighing them yesterday I found that two of them are 12 lbs. each and one 14 lbs. They do not consume more than half a pound of sugar each in a fortnight, but the bees are full of strength and spirit, and rather saucy, as the people here say. What should be done to these new stocks, and what am I to expect from them? Will you kindly favour me with any instruction?

I find by my notes that the consumption of stored honey last winter varied considerably. From the middle of September last year to the middle of March this year No. 1 hive consumed 14 lbs.; No. 2, 20 lbs.; No. 4, 6 lbs.; No. 5, 8 lbs.; No. 6, 9 lbs.; No. 7, 11 lbs.; No. 8, 9 lbs. My first year's success has made an impression on my rustic parishioners, and for their sakes as well as my own I should not like the favourable prestige to be impaired.—H. G. W. AUBREY.

[As this gentleman has made a good beginning in a very unfavourable season he need not fear that the favourable impression made on his bee-keeping parishioners will be diminished by non-success in future. He is much more likely to deepen the impression already made, and teach them a valuable lesson by a success in bee-keeping which he does not at present seem to anticipate. From the apiary he has established he may expect a large harvest of honey next season if it be a favourable one.]

His three new stocks will require a little more feeding, as they are rather light at the beginning of winter. In mild weather, even at this late season, bees will take up good warm syrup readily. In cold weather hives without food can be fed in a warm room or hothouse at night and carried into the garden before sunrise. Probably these three new stocks have not made much comb, and the bees are at some distance from their boards. If warm syrup be poured into a flower-pot saucer or dish of any sort, and placed so as to touch the combs, the bees in moderately mild weather will readily take the syrup. We have

no difficulty in getting our hives to take syrup in quantity. Many of them would take 3 lbs. of syrup in three hours if presented to them now in the manner indicated above. The figures which Mr. Aubrey has favoured us with, touching the consumption of food in winter, will help him and others to determine how much swarms should have in autumn.—A. PETTIGREW.]

OUR LETTER BOX.

POLANDS CROOKED-BREADED (W. A. W.).—A crooked breast is always a grave fault, if not a disqualification, in a cock. Polanders are not always handled, and if they are not the defect would not be discovered. The crooked toe nail is not so important, and there is no objection to your trimming it. It is not at all material, as it is likely to be an accident. At small local shows the birds are often shown in the baskets in which they are sent, but at most shows they hire proper pens. You will do well to ascertain the fact, as a basket that would do well for travelling would make a very bad exhibition pen.

SILVER-SPANGLED HAMBURGS (J. B.).—We advise you to avoid the extremes, and to choose your stock neither dark nor light. See that the spangles or moons are sharp-cut and well defined at the end of each feather; that the breast be accurately spangled, and that the tail feathers be quite white with the exception of the spot or moon at the end of each. Be very mindful of the hackles. A clear hackle is as great a fault in a Spangled Hamburg as a clouded one is in a Pencilled. But it must not be black, it must be made up of the two colours blended together. The better the lacing and barring of the wings the better the bird. Be careful that the comb is well piked and turning upwards, and above all that it be not loose or incline to either side. If you must choose between light and dark, choose dark. They will get lighter, but the light will not get darker.

PIGEONS AT TOOTING (An Old Fancier).—"WILTSHIRE RECTOR'S" visit to Mr. Vander Meersch, in which he describes his Pigeons at Tooting, is in our number for April 1st, 1875. You can have copies at 4d. each.

DORMICE (K. A. T.).—We know of no work on their management. They only need to have their kept clean, and a few nuts and a pan of water in it in case they rouse up.

BOOKS (X. Y. Z.).—"Domestic Pigs," by H. D. Richardson.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.						Rain.
	Baromet- er at 32° and Sea- Level.	Hygromet- er.		Direction of Wind.	Temp. of Sun at 1 foot.	Shade Tem- perature.		Radiation Temperature.				
		Dry.	Wet.			Max.	Min.	In sun.	On grass.			
1877.	Inches.	deg.	deg.	W.	deg.	deg.	deg.	deg.	deg.	In.		
Oct.	30.187	50.0	46.3	W.	50.1	59.2	46.4	97.3	40.3	—		
and	30.896	45.4	44.0	W.	45.3	55.7	41.1	86.9	36.4	—		
Nov.	30.225	44.9	44.0	N.	47.0	54.6	38.3	73.0	32.2	0.037		
	30.048	45.8	44.1	W.	47.7	54.8	43.6	95.7	38.2	—		
We. 31	29.931	39.0	38.2	S.W.	45.5	54.4	31.9	70.4	27.1	0.015		
Th. 1	29.783	52.0	49.4	W.	46.6	55.2	45.8	94.7	40.3	6.094		
Fri. 2	29.695	54.5	53.7	W.	45.0	55.4	49.1	91.0	43.1	0.185		
Sat. 3	30.029	47.5	45.7		47.7	56.5	42.3	92.7	36.9	0.309		
Sun. 4												
Mo. 5												
Tu. 6												
Means	30.029	47.5	45.7		47.7	56.5	42.3	92.7	36.9	0.309		

REMARKS.

31st.—Fine, very bright clear morning, dull afternoon; fine starlight night.
1st.—Very bright fine day; misty in after part of afternoon, and foggy at night.
2nd.—Very foggy morning; fine day, short shower in evening.
3rd.—Fine bright day, foggy at night; stars shining at 11 P.M.
4th.—Thick white frost in early morning; fine pleasant day throughout.
5th.—Very fine warm day, hot sun; misty towards evening and rain in the night.
6th.—Wet and dull throughout; windy in evening.
A mild and rather damp week, with hot sun on two or three days.—G. J. SYMONS.

COVENT GARDEN MARKET.—NOVEMBER 7.

OUR market is very quiet now, the supply of good Apples having materially fallen off this last week. Pears are still reaching us in good quantities from France, and consist of Duchesse d'Angoulême, Glou Morceau, and Beurré Diel. Pines meet with a ready sale. Kent Cobs are quiet.

FRUIT.

	s. d.	s. d.	s. d.		s. d.	s. d.	s. d.
Apples.....	½ sieve	2 6	5 0	Oranges.....	£ 100	10 0	6 0
Figs.....	dozen	1 0	3 0	Peaches.....	doz.	0 0	24 0
Filberts.....	lb.	0 6	8 0	Pears, kitchen..	dozen	1 0	3 0
Cobs.....	doz.	0 6	8 0	desecr.....	dozen	2 0	6 0
Grapes, hothouse..	lb.	1 6	6 0	Pine Apples.....	lb.	5 0	8 0
Melons.....	each	1 6	4 0	Plums.....	½ sieve	0 0	0 0
Nectarines.....	doz.	0 0	0 0	Walnuts.....	bushel	5 0	8 0

VEGETABLES.

	s. d.	s. d.	s. d.		s. d.	s. d.	s. d.
Artichokes.....	dozen	0 10	0 0	Mushrooms.....	pottle	1 6	2 0
Beans, Kidney..	bushel	0 0	0 0	Mustard & Cress	punnet	0 2	0 4
Beet, Red.....	dozen	1 6	8 0	Onions.....	bushel	0 0	0 0
Broccoli.....	bundle	0 9	1 6	pickling.....	quart	0 4	0 0
Brussels Sprouts	½ sieve	4 0	0 0	Parsley.....	doz. bunches	2 0	0 0
Cabbage.....	dozen	1 0	2 0	Parsnips.....	dozen	0 0	0 0
Carrots.....	bunch	0 4	0 8	Peas.....	quart	1 6	0 0
Cauliflowers.....	£ 100	1 2	0 0	Potatoes.....	bushel	3 6	5 0
Celery.....	bundle	1 6	2 0	Kidney.....	bushel	5 0	7 0
Coleworts doz.	bunches	2 0	4 0	Radishes.. doz.	bunches	1 0	1 6
Cucumbers.....	each	3 0	9 0	Rhubarb.....	bundle	0 6	1 0
Endive.....	dozen	1 0	2 0	Salsafy.....	bundle	0 9	1 0
Fennel.....	bunch	0 3	0 0	Scorzoneria ..	bundle	1 0	0 0
Garlic.....	lb.	0 6	0 0	Seakale.....	basket	1 0	0 0
Herbs.....	bunch	0 2	0 0	Shallots.....	lb.	0 8	0 8
Lettuce.....	dozen	1 0	2 0	Spinach.....	bushel	3 6	4 0
Leeks.....	bunch	0 4	0 0	Turnips.....	bunch	0 9	0 6
				Veget. Marrows..	each	0 2	0 4

WEEKLY CALENDAR.

Day of Month	Day of Week	NOVEMBER 15—21, 1877.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.		Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.		m. s.	m. s.	
15	TH	Sale of Orchids at Stevens's Rooms.	49.0	34.8	41.9	7 21	4 9	1 58	1 0	10	15	13	319				
16	F	Southampton Show.	48.9	33.2	41.0	7 22	4 7	2 7	2 10	11	15	2	320				
17	S	Baling Chrysanthemum Show.	48.1	33.9	41.0	7 24	4 6	2 18	3 21	12	14	50	321				
18	SUN	25 SUNDAY AFTER TRINITY.	47.9	32.9	40.4	7 26	4 5	2 32	4 34	13	14	7	322				
19	M		48.9	33.5	41.2	7 28	4 4	2 30	5 51	14	14	24	323				
20	TU	Northampton Show.	48.7	34.6	41.7	7 29	4 2	3 14	7 11	15	14	10	324				
21	W	Sale of Bulbs at Stevens's Rooms.	49.6	36.2	42.9	7 31	4 1	3 48	8 31	16	13	54	325				

From observations taken near London during forty-three years, the average day temperature of the week is 43.7°; and its night temperature 34.1°.

WINTER PRUNING OF FRUIT TREES.



Y many writers the pruning of fruit trees is made to appear as one of the most scientific matters connected with gardening. To such an extent is this carried in numerous instances that many amateurs and owners of small gardens who do their own gardening are frequently deterred from pruning their fruit trees altogether. They are so much afraid of "doing them wrong" that they prefer not doing them at all, which results

in much injury to the tree, and deficiency in both quantity and quality of the fruit. Pruning is a simple operation, easily imitated from practice or learned from reading. The following notes are written without any pretensions to science or mystery, and those who put them into practice may rely on keeping their fruit trees and bushes in shape and in good bearing order. The winter pruning of all fruit trees may be done from the middle of November until the end of March. It is of no use saying, Only prune when the weather is dry and free from frost. It is very seldom we are so favoured in the winter season, and, excepting in extreme frost or snow, we practise pruning.

APPLES.—I may assume without being far wrong that all fruit trees are well pruned and trained so long as they are in a young state in the nurseryman's hands. On receiving fruit trees from the nursery it will be seen that the branches are not crowded or growing across each other, and one is a good distance from another. No better example could be shown or taken than this for all future guidance in pruning. In pruning both young and old Apple trees always cut out all cross-growing shoots: where this will cause a large vacancy leave a bud or two at the bottom from which a straight shoot may spring up. Where it is desired to have the trees low, cut the straight young shoots well down that they may send shoots out underneath. In young trees it is always best to lay a good foundation by cutting them close-in for a year or two at the first, because when they are allowed to become straggling at first it is very difficult to get them into form again. Where many shoots are growing together cut all the weakest clean out, and shorten about halfway back those that are left. When it is desired to make a tree into any particular shape pruning must be done accordingly. In old trees cut out all long budless branches, and let the nearest young shoots take their place. Never cut away a branch with a lot of blunt-pointed fruit buds on it. Cankered half-dead wood should never be allowed to remain. Where the branches are not wished to be extended any further cut all the shoots made at their points this season close in to the old wood. Always let the shoots extend outwards; never allow them to become jammed in the centre and thin and straggling at the outside. Young trees will want the centre shoots thinned and shortened, old trees must have the dead branches cut out and all this year's wood not needed cut-in to one eye, or two, from last year's wood.

PEARS.—These are pruned somewhat after the style for

the Apples. They always bear on the spurs, and as many of these must be secured as possible. Standard or bush trees must have all the young shoots cut-back where they are not wanted, but they should not be cut quite so close as the Apples. It is very seldom that any of the round-pointed fruit buds require to be thinned, but where they are crowded cut out the weakest. With trees on walls, if the branches are being extended, only take a small point from the leading shoot which has been formed in summer, and all the young shoots which are growing straight out from the wall on last and former year's wood must be cut-back to the third or fourth eye.

PLUMS.—Most Plums resemble Pears very much in their habit of growth and mode of fruiting. We prune our wall Plums just the same as the Pears. Bushes have their shoots well shortened, as the branches are so liable to grow small and bear down on one another. Any old trees which have not been pruned for years should have all the small trash of branches cut clean out of the centre, and all shoots some yards long with only a few buds at the point must be cut away also.

APRICOTS.—These are just pruned like the preceding, but sometimes they do not grow so luxuriant while young, and therefore are not cut so much until they have become established; but at the same time they are never allowed to grow out of shape. Old trees produce many fruitless shoots amongst the fruit buds on the spurs, these should all be cut-in to the first or second eye.

PEACHES AND NECTARINES.—These require about as much care in pruning as any kind of fruit tree. They do not like being cut too much, but at the same time they will not do without being pruned. It may be thought that the directions for pruning such important fruit trees must make a long article, but such is not the case, as the whole operation may be stated in very few words. Peach tree shoots which start from the main stem soon grow a considerable distance, and they have a great tendency to become budless as they proceed. The results of this may often be seen in trees with nearly leafless and fruitless centres. When pruning is annually done this may always be avoided. In spring time when disbudding the tree leave one young shoot to form a branch at the very base of the previous year's wood. In pruning now cut all the wood in front of this shoot away and let this shoot be nailed or tied-in to fruit next year. By doing this no tree will become bare of young wood on one part and crowded on another. The Peach and Nectarine always fruit on the young wood, therefore save as much of this as possible. Unless the shoots are extremely long do not cut much from their points, but a little should always be taken off each shoot, because very often the extreme bud is a fruit one, and it is always desirable to have leaves at the point, which may be secured by cutting in front of where a small bud is seen in the centre with a large one on each side.

CHERRIES.—All young shoots on bush trees not wanted to extend the tree should be cut-in to 2 inches from the old wood. Wall trees must have the best of the shoots nailed-in, and cut away all small unripe twigs.

GOOSEBERRIES.—Some of the above fruits are not grown in every garden, but now we come to a class of fruits grown everywhere. In pruning Gooseberry bushes keep the centre well open; do not let the branches cross one another; cut all shoots formed this season into half an inch from where they join the old wood. When the bushes are large enough cut the leading shoot in the same way. In extending them do not leave more than 6 inches of young wood on in one season. A well-formed and pruned Gooseberry bush should have each branch surrounded with clusters of short spurs with no long projecting pieces sticking out from various parts.

CURRENTS.—In the case of young Red and White Currant bushes have the shoots thinned where too close, and shortened to not more than a foot. Where no young branches are wanted on old-established bushes every young shoot must be cut off, leaving only about half an inch attached as a fruit spur to the old wood. Black Currant wood is never shortened. The oldest wood is cut away every winter to give place to the new. As soon as both Currants and Gooseberries are pruned the prunings are cleared off the ground, a good quantity of dung placed round and between the bushes and forked-in about 3 inches from the surface. This is a good plan to keep the bushes fruitful and vigorous.

RASPBERRIES.—All the old canes of these are cut off at the surface of the ground and thrown away. The strongest canes made during the season are put in their places, and all the smaller not required are either cast away or lifted with roots to make fresh plantations. Good manure is spread on the surface of the roots, but not forked-in; the centre of the rows only, where there is not many roots to disturb, is turned over.—A KITCHEN GARDENER.

SPECULATIONS AS TO THE NATURE AND ORIGIN OF THE POTATO DISEASE.—No. 1.

The Potato is believed to have been introduced into the United Kingdom from Virginia by Sir Walter Raleigh in the beginning of the seventeenth century, and was cultivated on his estate in Ireland and in other parts of that country in a small way for many years, and about 1694 was introduced into Lancashire, where its cultivation soon became general and gradually spread over the other counties of England; and if we allow several more years from 1694 for this to have taken place, say until 1745, the Potato must have been in general cultivation at least a hundred years previously to 1845. For many generations the Potato was cultivated year after year, as before mentioned, and as far as we know no sign of disease exhibited; indeed I consider it impossible a disease so virulent in its nature and so rapid in its extension could possibly have existed without being known, when all on a sudden it appeared and spread rapidly over a wide range of country. That is difficult to understand. How did it arise, and where did it come from? An able botanist not long ago came out with the astounding statement that everybody was convinced that the fungus was the disease. This was going a little too far: the general public were by no means convinced, and are not now. I am willing to confess, however, that I am inclined to agree with the botanist.

Some persons think that the plant must first be in an unhealthy state, and that it must be in that condition before it is liable to the attack of the fungus. That is so, undoubtedly so, with regard to many other plants, as almost everyone must have observed who has had much to do with plant cultivation; but if we take that view with regard to the Potato we are not much nearer the mark than before. What were the particular conditions that prevailed at that time and have continued more or less ever since? That is as difficult a question to answer as to find out the origin of some of the diseases which affect the human subject. Did Adam suffer from the measles, &c., and if not, why not? would be a very good question for the medical student.

It would simplify matters very much if we could only believe in spontaneous generation, but we should want some stronger evidence than we seem likely to get for a long time yet. Professor Tyndall must try a great many more experiments with his boiled infusions of hay before he will be able to bring forward any very satisfactory evidence on that question. I may as well at once admit that I do not believe in spontaneous generation, and therefore abandon it.

The cause of the disease is again supposed by some writers to have been from the degeneracy of the tuber, or some peculiar state of the atmosphere. If the disease arose from the first

cause, those raised from seed and those which are carefully cultivated ought to be free from the disease, but they are not; and if it arose from some peculiar atmospheric influence, what a remarkable thing it was that a change should have taken place about 1845 and should have continued down to the present day, and not only that this change took place here but over the whole inhabitable globe.

The British Consul in Poland wrote to Lord Palmerston on the 16th of October, 1846, stating that the only known case of Potato disease in that country occurred in some plants of the Ashleaved Kidney, the tubers of which had been obtained from Britain and treated in exactly the same way as the common Polish crops; and it adds, "This circumstance would seem to prove that the disease is not attributable to atmospheric influence, as I hear is the generally received opinion of other countries. Here in Poland all persons to whom I have spoken on the subject think that the Potatoes in the rest of Europe are tainted in the germ by over-cultivation; and it is certainly remarkable that here where the soil is generally light, and where less manure is used than in any other country except Russia, and never immediately preceding the crops of Potatoes, those plants should have completely escaped the infection which threatens their extinction in all parts where greater pains have been taken with their culture." I think the writer, although he wrote thirty years ago, was right in his conclusions that the disease was not attributable to atmospheric influence, and he might have gone a little further and said it was plain the disease was taken there with the English Potatoes. And then with regard to the degeneracy of the tuber from over-cultivation and the use of a large quantity of stimulating manures—bad things, no doubt—the disease ought to have originated in the north of England and Scotland, where these malpractices were carried on; but no, it began in other places before it reached there; therefore we must seek some other cause.—AMATEUR, Cirencester.

WHAT ROSES SHALL I BUY?

Now that the result of the exhibition-Rose election is in our hands, and aspirants for distinction at the shows are seeking its guidance to add to the ranks that are to do battle for them, I think a little advice from some experienced and skilful general as to the proportionate numbers of each Rose that it is best to enlist would be useful.

Imagine one who was a bad fourth for six varieties at a show during the past summer, eager for higher honours, ordering a dozen each of the twelve Roses standing first on the list. It needs but a glance at the names to see that he would be disappointed when he sallied forth to cut his blooms for the show to which he had so eagerly looked forward. He would be embarrassed to decide upon the best of three or four blooms of one variety, while for a passable specimen of another he would search in vain.

I will take the first twenty-four, not as pretending to guide, but to explain what I mean. Would not the quantity of each kind required to ensure an even box of twelve be something like the following, taking the numbers to represent dozens?—

- | | |
|----------------------------|--------------------------|
| 1. Baronne de Rothschild | 5. Ferdinand de Lesseps |
| 2. Marie Baumann | 6. Catherine Mermet |
| 3. Madame Victor Verdier | 6. Mlle. Eugénie Verdier |
| 3. La France | 6. Comtesse d'Oxford |
| 3. François Michelon | 6. Marie Raby |
| 3. Etienne Levet | 7. Sénateur Vaisse |
| 4. Charles Lefebvre | 8. Duke of Edinburgh |
| 4. Alfred Colomb | 12. Louis Van Houtte |
| 4. Marguerite de St. Amand | 18. Xavier Olibo |
| 4. Dr. Andry | 18. Emilie Hausburg |
| 4. Marquise de Castellane | 25. Horace Vernet |

The last three Roses should hardly find place in so limited a collection perhaps. Maréchal Niel and Edward Morren I have not mentioned, as the former is estimated rather by the square yard (or square mile if one can), than by the number of plants, and the latter is so uncertain, being dependant on the season, that it is difficult to say what number of plants one should have. It should go perhaps in the same category with the last three on my list—viz., Roses which it is much desired but little expected to be able to show. Will some one be so good as to correct me and extend the list?—HUBERT BENSTED, Maidstone.

DIONÆA MUSCIPULA (VENUS'S FLY-TRAP).

E. PAYNE, late gardener to Mr. Foreshaw, writes to the Editors that I have done him an injustice in reference to the notes I sent on this plant. He says that it is "untrue that

Mr. Black has potted most of Mr. Foreshaw's exhibition plants for the last three years." He says the plant in question was purchased by him from Messrs. Veitch in October, 1871 (two small plants in 60-sized pots), and was grown-on from that date in the same house and place in which I saw it. He further says that he has known Mr. Black for "many years and the situations he has held as gardener, but never knew him to have a single plant of *Dionæa* under his care, and that the treatment Mr. Black gave to me is entirely without practical experience."

My answer is that in the summer of 1876 I visited my friend Mr. L. Black of Fulwood, near Preston, and amongst other small places he took me, through the kindness of Mr. Payne, to look at Mr. Foreshaw's plants. The pan of Venus's Fly-trap struck me at once as an example of skilful management. Thinking it would interest the readers of the Journal I wrote to Mr. Black asking him to obtain me some notes on its culture from the gardener, with whom I had no personal acquaintance. Mr. Black wrote me to say that the gardener who exhibited it at Preston this summer was not the same whom I saw last year, but he stated that the plants were considerably stronger than when I saw them. He also gave me the information that has been already published in this Journal. Mr. Black's own words are these, alluding to the *Dionæa muscipula*, "I have had to do with the plant; in fact, I have potted nearly all Mr. Foreshaw's exhibition plants (the owner of the Fly-trap) for the last three years, consequently I can give you all the *pros* and *cons*." I have known Mr. Black for nearly twenty years, and do not think he would have made this statement unless it was true, especially as he knew I wanted the information in order to publish it for the benefit of others; if he has done so the responsibility is his, not mine.—J. DOUGLAS, *Loxford Hall Gardens*.

GRAPES CRACKING.

In "J. S. W.'s" otherwise interesting paper on this subject I think he is a little inconsistent when he blames me and my theory for not preventing his Grapes cracking, and yet takes particular pains to tell us he has made no attempt to carry the said theory into practice. I do not suppose for a moment that I could manage "J. S. W.'s" Grapes better than he can himself, taking all points into account; but I do think I could stop the cracking, although the cure in the first attempt might be nearly as bad as the disease, as I have distinctly shown it was with me in one case of overdoing it.

I think the last paragraph but one in "J. S. W.'s" paper rather strengthens my recommendation to take off a few leaves to diminish the flow of sap. It runs thus—"It is a curious fact that in the case of the Vine at the end of the house the sun shines directly on the bunches for a long while every afternoon, whereas on the other Vine where there is so little cracking the bunches are much shaded, as the Vines are trained only 2 feet asunder."

Has it never struck "J. S. W." that half a dozen leaves on the Vine at the end of the house where they get so much direct sunlight, will probably elaborate more nutriment than double the number of leaves would do in the middle of the house where they are crowded and partly shaded by other leaves? Mere area of foliage, however luxuriant, is not worth reckoning unless it is exposed to the light. I do not place any value at all on the sunlight reaching the berries of black Grapes, but I do place great value on it reaching the foliage, as among other things it makes the pumping apparatus work much faster; it puts on more steam power, as it were—sometimes, indeed, too much, as in the case of "J. S. W.'s" Vine at the end of the house.

As this subject is an interesting one and is not yet by any means exhausted, I will jot down a few other thoughts concerning it which occur to me at the moment.

Saturation of soil does not cause cracking unless it has been preceded by comparative dryness, and even then cracking would not occur were there little or no foliage on the Vines. When the border has been allowed to approach dryness so that the berries have ceased swelling and the skin has commenced hardening, and water has afterwards been applied while the foliage was still vigorous and able to take it up, the berry would be very likely to start swelling afresh, and if the skin had become so much hardened as to have lost its elasticity of course it would crack. I consider it a very great mistake to cease watering when colouring commences. I like to see black Grapes, perfectly green leaves, and hard brown wood all

at the same time, and then it looks well for another year. These are often not attainable if there is any stint of water.

Saturation of atmosphere will cause cracking, especially if it is accompanied with a sudden rise of temperature so as to produce condensation on the fruit. We know that the berries can be made to swell tremendously in such an atmosphere, but if it does not cause them to crack they swell at the expense of colour and quality.

In my experience cracking and shanking are not contemporary to any extent. An odd berry of course may be found to support the opposite theory, and the one evil may follow the other speedily from altered circumstances, though the alteration may not be visible to many people. Too little foliage as compared with the weight of fruit will cause shanking or imperfect colouring, and a superabundance of foliage on such Vines as are predisposed to have cracked berries will very likely make them crack.—W. TAYLOR.

It is said, I know not on what good grounds, that Grapes out of doors do not crack. I never grew them, but I think it improbable. Plums and Pears certainly do crack, and I think that most people must have noticed that this occurs when a dry atmosphere is succeeded by a very moist one. I think the analogy holds good with Grapes under glass. This year we had, when some Trentham Black Grapes were half coloured, bright and dry weather. Of course atmospheric moisture had been discontinued in the house as far as it was under our control. This was followed by several days' rain and cloud, with excessive atmospheric moisture. One morning on looking up I saw dozens of berries cracked, with the juice quite fresh; they had all cracked in the night. It occurred to me that if I could keep the air drier it would probably prove a remedy. I immediately had the fires lit, although in the end of July, and put the top ventilators open night and day. The next morning there were only two or three more berries cracked, and after that it ceased. Some three weeks afterwards we had another spell of dry weather, and then again rain and damp. Some other Grapes on other Vines cracked, and were again stopped in the same manner.

I am much inclined to think, therefore, that a sudden change from a dry to a moist atmosphere is the true cause of Grapes cracking, and that they could be brought under control by fire heat with top ventilation. I hope some of our more experienced growers may be induced to experiment in this direction and state the benefit of their experience.—J. R. B.

THE CARNATION AND PICOTEE.

Two or three months ago a list was given of the best varieties of these plants, and also some descriptions of the best houses in which to flower them. The season we have just passed through may be said to be very exceptional. Letters are before us from growers in districts wide apart from each other, and all agree in saying that the season has been the worst they have ever known. This applies principally to the midland and northern districts. The growers were not able to layer the grass until the very last week in August and later, and even at that time it was not in good condition. The result of this is that much of the stock is not yet rooted, and some good varieties that we expected to be sent out this season will have to stand over until next year. As I expected, the choice collection of Mr. Ben Simonite at Sheffield has suffered very much, and he is also late with his plants. The growers about Manchester are quite as late, and as we go further north the difficulties of the situation are more numerous. Down south the elements have been more propitious. I was able to layer the largest portion of our plants by the first week in August, and when the layers were taken off they were all rooted except about twenty or thirty pairs. These have also been taken off and potted, but they are treated differently from those that have roots attached to them.

The best place for layers which have been potted (one in a small 60 or two in a large 60) is a common garden frame. I plunge the pots to the rim in cocoa-nut fibre refuse, and give abundance of ventilation whenever the weather is suitable. The plants require just sufficient water to keep the soil moist, and it ought not to be applied to the foliage. This year, owing to the layers not rooting well, we found it necessary to place a number of those that had no roots in a gentle bottom heat, keeping the glass lights close for a week until the layers had emitted roots; after this time more air is admitted, and during calm nights when the dew is falling the lights are removed,

replacing them again in the morning when the sun touches the frame. Carnations are subject to the attacks of green fly, and if this is not kept in check good results cannot be obtained. We have destroyed the insects in two ways—by fumigating with tobacco smoke, or dusting the foliage with dry snuff or powdered tobacco. When the lights fit tightly two or three nights' smoking will destroy the pests. If this is not the case it is necessary to dust the foliage. Dipping the foliage in soapy water to which has been added a little tobacco liquor, has also proved destructive to the insects.

In order to be successful yellow loam containing a good percentage of clay must be procured for potting the plants; to this must be added leaf soil and decayed manure in the proportion of 1 to 5, and an 8 or 9-inch potful of sand to each barrowload of the compost.

Some varieties are much more delicate than others. They make very slender growth, and the leaves die off near the base; but as many of these have the finest flowers and are almost indispensable to the exhibitor, they must be kept in good health if possible. It requires some experience to be able to give each variety the treatment best adapted to it, but as a rule weakly growers require a lighter compost made porous by a larger proportion of sand. Others, again, grow with too much freedom; these will be better with a smaller proportion of manure, leaf soil, and sand. They may also be turned out of doors earlier in the spring than the others.

Most of the varieties of Carnations and Picotees are grown in pots at Loxford, and if it is intended to plant any out in beds the more robust growers are selected for this purpose. Varieties wanting in colour do best in beds; high-coloured sorts, on the other hand, are not improved by being planted out. A friend in the north of England has kindly promised to send me a few notes on the method pursued there with them. I hear that they grow none in pots, but plant all the varieties in the open ground. They seem to grow the plants two years on the same ground; the second year they term it "growing them on the bush." The method we used to pursue in Scotland was this: About this time of the year the ground was trenched 2 feet deep, working-in at the same time plenty of decayed manure. On the surface of the bed some fine maiden loam was placed, and in this we put out the plants early in March about 18 inches apart. The plants do not require so much attention in beds as they do in pots; but we much prefer pot culture when they are in flower, especially if they are wanted on a given day for exhibition, as the pots can either be shifted to a cool place to retard the flowers, or to a warmer position to bring them earlier into bloom. Mr. Rudd of Bradford, an ardent cultivator and exhibitor of this flower, has noticed a singular circumstance in regard to plants obtained from the north, where they grow only in the open ground: he has found that such plants never do well when grown in pots the first year, it generally requires a season to bring them into good condition. Another circumstance which cannot readily be accounted for is, that certain sorts die off without any apparent cause, although they may be as healthy as the others at the time of potting. I had three pairs of one of the new varieties this year, which died off, and had to obtain another supply.

Those intending to purchase plants should do so at once, as the demand for certain choice varieties may be greater than the supply. I prefer the plants taken direct from the stools and sent carefully packed in moss and wrapped round with paper. When they come home packed like this they ought to be potted without delay and be placed at once in a cold frame, shading from the sun for a few days. It is not necessary to give names of the varieties, as this has been done so recently, but the above notes may be useful to those who are forming collections and whose experience is limited.—J. DOUGLAS.

NEW VARIETIES OF POTATOES.

SOME of the new sorts I grew this season are very promising. Schoolmaster is a very good variety; it bears well and is very little diseased. I planted 1 lb., and the crop weighed 30 lbs. when I lifted them, and had it been a good season for swelling the tubers I believe there would have been 50 lbs. There were exactly 29 feet of a running yard for 30 lbs. Yorkshire Hero is a free grower and bears profusely and good quality: there were a fifth of them blighted. Alpha is a good early sort, but more subject to blight than the Schoolmaster. Covent Garden Perfection is also a good sort, and Porter's Excelsior is a good early—the true sort of it. Climax, Dalmahy, Rintoul's

Striped, White Dons, Myatt's Kidney, and White Regent were very bad with disease. The Blue Regent stood very well, but the Champion is a dreadnought sort and bids defiance to the tainted atmosphere which some think is the cause of blight, and everyone has a right to think. This sort originated in Forfarshire three or four years ago, and is deservedly getting into favour. I grew some of it, and it bears well and is of very good quality and resists the blight, and if it is treated in a proper way it may be the sort grown for years. A farmer near Dundee has fifty acres of it, and he sold thirty of them and received £50 an acre, and half of the cash paid down when bought. There will be a rush for it for next year. A good many of the farmers here have grown a few and are much pleased with them. They bear seed freely.

As a rule the disease is associated with rain, thunder, &c., but I saw it one year in Ireland in a very dry season. I was then gardener to the late Earl of Shannon, Castlemartyr, and in June the Earl sent me to London to see some of the sights there; and when I returned the grass was burned up, and there was no rain for long after that, and the early Potatoes were much blighted, and I really wondered at it, but it is a fact. This and the Champion resisting this awful blighty season will be a hard nut for one of your correspondents to crack, and who believes it is entirely an atmospheric affair. The new and hardy varieties must be grown, and if properly treated there will be less dread of a wet season destroying them.—J. ADDISON, *Ormiston, Edinburgh.*

GLOUCESTERSHIRE ROOT, FRUIT, AND GRAIN SHOW.

ONE of those exhibitions of farm produce which usually take place in the rural districts at this season of the year was held in the Corn Exchange at Gloucester on Friday last under the auspices of the Gloucestershire Root, Fruit, and Grain Society. The Society has been in existence for fifteen years, and they have held a show annually on the 9th of November, their object being to encourage the production of superior samples of roots, grain, fruits, cider and perry, which are the staple productions of the district. We shall confine our observations to the fruit, the other objects being outside of our department.

In an unfavourable season like the present we did not expect to see such a large quantity of fruit as was exhibited. One wide centre table running the whole length of the Corn Exchange was occupied with Apples, and a cross table was furnished with good collections of dessert Pears. The Apples were divided into classes, as Dessert, Culinary, and Cider fruits, and there were also classes for special subjects of each of these. Upon the whole, considering the unfavourable season, the quality of the fruit was good. In the competition for a collection of dessert Apples the first prize was awarded to Messrs. J. C. Wheeler and Son, the eminent seedsmen of Gloucester, and the second to Earl Ducie of Tortworth Park. Both collections contained superior specimens, and they were all correctly named, which is an unusual occurrence at exhibitions of a similar nature.

We never saw such an exhibition of Ashmead's Kernel as was shown on this occasion. It being a Gloucester Apple, raised within the city precincts, it had a special class to itself. The response was good, for there were no less than seventeen entries, all of which were very meritorious with one or two exceptions only. The successful competitors were Mr. Daniel Phelps of Tibberton first, and Mr. Thomas Cadle of Longcroft second. The soil of Gloucestershire seems to be specially adapted for this excellent Apple, for nowhere do we find it produced in better condition than it is here. The class for Ribstons was also good, but there were only nine entries; the first prize falling to Mr. Barnes of Hucclecote Gardens, the second to Mr. Organ of Breadstone, while those of Earl Ducie were highly commended. These three were all very excellent dishes. Of the class for Nonpareils we could not speak very highly, but of the Brandy Apple or Golden Harvey we never saw them surpassed if even equalled. Mr. C. E. Wells of Minsterworth showed a dish which were larger than any we have ever seen and most beautiful in colour: they deservedly received the first prize; while those of Mr. T. Cadle of Longcroft, which were second, though not so large as Mr. Wells's they were equally fine in colour. In the class for twelve dessert Apples of any other variety Mr. Chadborn of Barton House and Mr. Deane of Boyce Court were respectively first and second with Adams' Pearmain and King of the Pippins. The prizes for collections of dessert Pears were taken by Mr. B. Littlewood, The Greenway, first, and Earl Ducie, Tortworth Court, second; both collections being very meritorious. The prizes for twelve dessert Pears any other variety were both taken by Marie Louise; Mr. Phelps of Berlingham, Pershore, being first, and Mr. Littlewood, The Greenway, being second.

The Grapes were not superior; but the culinary Apples were

excellent. In this class Earl Ducie was first, and Messrs. J. C. Wheeler & Son second. It is worth remarking, again, that in these as in the dessert Apples, where these two competitors were also successful, there was not a variety that was wrongly named. There was a special class for Blenheim Orange, and the first-prize fruit of Mr. Mayo of Base Court were of a very brilliant colour, and of fine size and form. For culinary Apples (not Blenheim) Mr. Phelps of Tibberton was first with Alfriston, and Earl Ducie second with Warner's King.

A soil and climate that can produce such fruit as the Ashmead's Kernel, the Golden Harveys, the Ribstone, and the Blenheims that took first prizes in their classes ought, we think, to be used to better purpose than they are, if we may judge from the state of the orchards which one finds, not only in this but in the adjoining counties of Worcester and Hereford. Perhaps we ought to except Worcester, for during the past twenty or twenty-five years great progress has been made, particularly in the Vale of Evesham, by the introduction of the modern system of fruit-growing; but still with that exception all three of these fruit-producing counties do not yield anything like the return they ought to do if a better system of orcharding were practised. With the facilities of railway communication with which they all are served they ought to produce a great supply of far superior fruit to the leading centres of consumption than they do.

We were pleased to see among the collections of cider Apples so many of the famed old varieties still in existence—the Red and Yellow Styres, Hagloe Crab, Redstreak, Cowarne Red, and Skyrme's Kernel. These of themselves if widely planted and properly cultivated would bring wealth in the quality of the cider they produce. How is it, then, that in the collections of cider Apples that were exhibited we found so many that were no better than trash, without names and without character? And how is it that orchardists will grow such trash when they know them to be so? It must be indifference or ignorance of their own interests that is the cause of it. A valuable Apple occupies no more space and requires no more care than a wilding does; and when farmers are so careful to improve the breeds of their cattle, knowing that a high-bred animal eats no more and perhaps not so much as one of a baser breed, it surprises us that orchardists have still to learn that there is as much method, skill, and science in good orcharding as there is in cattle-breeding. The cider which the district round Gloucester produces, when produced as the prize sample exhibited by Mr. Organ, is so superior to the wretched stuff that is sometimes met with under the names of hock and claret, that if it were to be introduced pure upon the market it would displace all of these, and the public would possess a wholesome palatable beverage while the producers would become enriched for their pains. We do hope that this Gloucestershire Society—working in its own district, while the Woolhope Club is working in the same direction in the neighbouring county of Hereford—will be successful in opening the eyes of the orchardists to the pursuit of their own interests, and that the landowners of these counties will also see that by encouraging the development of this industry they are adding vastly to the value of the fee simple of their estates, at the same time that the public are benefited by a large addition of wholesome food and wholesome beverage.

JOTTINGS ABOUT VEGETABLES.

To account for the many diversified opinions—say for instance in the cultivation of Grapes—I have concluded that a generally industrious person may indulge in any particular hobby of his own; if it be the most whimsical or even detrimental his other good properties outweigh this one mischief, and he succeeds. In the growing of vegetables the man who manures well may indulge in whole group of whims. "Muck's the man which makes this mare to go." But this assertion even requires qualifying. When an old garden has been manured and cropped, and cropped and manured, for perhaps a time further back than of which anyone has any remembrance, then this garden has probably become "muck-sick"—its continuous repetition of the same kind. Vegetables refuse to feed longer on one diet *in infinitum*, they require change. New life is needed. Everything burnable, even to the very soil, wants burning. Lime is much needed, and roadside scrapings or soil from wherever obtainable, and soft burnt clay from a brickyard is desirable.

Regarding manuring land in "good heart" and with a good clay bottom you may place the manure where you like, your vegetables will find it. A gravelly bottom is simply an insatiable devourer; it takes unreasonably, and still craves for more. To bury manure deep in a gravelly bottom is simply giving the gravel all the chances of first swallowing the lion's share. By surface manuring or mulching all the while it is gradually penetrating, say through the first 18 inches, every

hungry root is gobbling it up as fast as every root can. The thinking gardener never manures regardlessly; he puts every shovelful where he judges his crop will be most benefited. I will speak of Cabbages first. Having seven thousand to plant last autumn, in good time I secured all the novelties I could lay hands on, also common market varieties, and having regard for an old favourite of one whose gardening days are long since ended I planted a few Early Yorks. Of the latter a buyer remarked, "The women folk never lay them long-hearted Cabbage down again." The fact is the Early York, in proportion to bulk, is the heaviest Cabbage we have. I was sadly annoyed at the seed generally being so mixed. Daniel's Defiance was the exception. It is a noble market marrow Cabbage, and, what I like, requires no earthing-up. I had a fine square of summer Cauliflowers from seed of my own sowing, though hereabouts the rain of this very wet season for Cauliflowers was some ten days too long in coming, and I spoiled the lot, or at least all the best of them. For exhibition I have tied-up Cauliflowers for years, but perhaps never previously till the hearts were two-thirds grown. In this instance I tied them up when they were little larger than buttons, and before I noticed the evil the inside leaves had turned yellow and the hearts were bursting through between. Of Autumn Giant I had twelve hundred from an eighteen-penny packet of seed, and not a dozen went blind. But nearly the first two hundred "went" for all that—they went to the pigs. They came green and seeded. The remainder, however, were beautiful, and I have one in the vinery now seeding that was 11 inches across. I have a fancy that uripae seed is the cause of so many of this noble Cauliflower having no heart, and perhaps these green ones are attributable to carelessness in selecting the stock. Mr. Stickley, who took such pains in selecting his Red Cabbage and who grew them so well, was for many years a near neighbour, hence in this neighbourhood we boast of our Red Cabbage; sow them all in the spring with the Cauliflowers under glass or nearly so, and by the middle of August they average in weight some 8 or 9 lbs., and I have seen our cottagers exhibit some this autumn really a remarkable size.

The Onion maggot is a pest. I rather fancied our Editors were incredulous when a while ago I recommended "boiling" the crop: Now the fact is Onions will stand having water poured over them when little off the boil, and maggot life can stand nothing of the kind. If taken in time hot water poured over the bed will prevent the maggot going further by simply killing them, but if the maggot has got so far as to have eaten itself overhead, then do what you like the crop is done for.

It may or may not be news, but the fact is our colliers down here are possessed of quite a craze after Leeks. I know of even 2d. a-piece being offered for some when in the seed pan, and every village has, independent of other shows, its Leek show. When criticised by our London dailies the poor pitman is always accompanied by his fighting dog. It is a libel. As a specimen of these shows I should be so glad would you copy the following report from our local paper; I think it will prove that the Durham pitman's taste lies in quite a commendable direction. Just to finish, pray allow me to state that considering my remarks on manuring at the commencement of my jottings I have avoided particularising about the separate cultivation of the vegetables spoken of. In the report I wish it to be particularly noticed that all the prizes are comprised of useful household articles, which I like; every time you see them they create pleasure. Somehow you lose sight of money; it has wings, and ere you are aware it is flown.—J. WITHER-SPON, *Red Rose Vineries, Chester-le-Street.*

P.S.—PELTON FELL LEEK SHOW.—A Leek Show was held at the house of Mr. Thomas Mason's, Hot Hills, Pelton Fell, when a number of prizes were offered for competition. There was a good number of entries, and the Leeks shown received high commendation from all the visitors, as well as the professional gentlemen who judged them. The following were the successful competitors, and the prizes awarded to each:—For best three Leeks, Thomas Batey, a cruet stand; 2nd, John Ferguson, a coffee pot; 3rd, John Studham, a teapot; 4th, Robert Appleton, a teapot; 5th, William Wishart, a cruet stand; 6th, John Johnson, half dozen knives and forks; 7th, John Barker, half-dozen table spoons; 8th, George Armin, pair of salts; 9th, Thomas Mason, jun., pair of candlesticks; 10th, Luke Mason, pair of butter knives; 11th, Joseph Wrangham, bread board and knife; 12th, James Dixon, pair of candlesticks; 13th, John English, a pocket knife; 14, Matthew Wass,

a set of brushes; 15th, John Hollison, a cruet stand; 16th, Thomas Cook, pair of candlesticks; 17, Edward Barker, a water pot; 18th, Robert Purvis, a spittoon; 19th, Edward Pearson, a butter pot.

OUR BORDER FLOWERS—AMARYLLIDS.

THE Snowflakes are a small family, but that does not detract from their beauty or their service to us in many ways and under a variety of circumstances. In a late *Journal* a well-deserved word of commendation was spoken for our old favourites, the border flowers, by one who was visiting a place where those had been cast aside for the red, white, and blue, but the old favourites were being again reinstated. Snowflakes are spring, summer, and autumn-flowering plants, but the family we notice is the Summer Snowflake, *Leucojum aestivum*, said to be derived from *lukos*, white, and *ion*, a Violet, having reference to the colour and fragrance of the flower—a charming name for a charming subject. It is said by some to be a native plant, but I doubt the authority. It is perfectly hardy in our climate and may be well naturalised, but I have not had the pleasure of meeting with it away from the habitation of man. It thrives well in most soils and situations, and is increased by division after growth has been matured. They are capital plants for most shady borders and sides of walks in wood or wilderness.

Less known is *Leucojum pulchellum*; it has much the same appearance, but flowers earlier in the spring, and is a very useful border plant. Closely allied we have *Acis autumnalis*, or the Autumn Snowflake, named after *Acis*, a Sicilian shepherd. Being from Sicily it is a delicate subject in our climate. It is of dwarf slender habit, and requires care to succeed with it. It should have a moderately warm dry situation; sandy loam, peat, grit, or charcoal, with thorough drainage will meet its requirements. There are others of this charming group. *A. grandiflorus*, *A. trichophyllus*, and *A. roseus* are seldom seen, but are worthy of extensive cultivation: when once established they will take care of themselves.

Then we have the *Erinosema*, from *er*, the spring, and *osme*, to smell, one of if not the most charming of all our spring flowers. This, the Spring Snowflake, is right wherever you like to put it. Six or eight bulbs in a 6-inch pot repeated as often as you please for indoor work in early spring are among the most beautiful of early flowers, and for beds and borders they are all that can be desired. Instead of being planted by the dozen they are worthy of being planted by the thousand. This is not a plant of yesterday, having been among us since 1596. It should have a place in all gardens. At present, comparatively speaking, it is a rarity. *E. multiplex* and *E. carpathica* need looking up now that we are in want of early bloomers in the spring; they are early-flowering spring plants. To succeed with them they require attention.

The rarer kinds are increased by parting the bulbs when they have matured their growth; when established they are best left alone. They last many years, repaying any amount of care bestowed on them. There is some confusion in the families above named. Why they are separated I am not able to say; no doubt there is a cause, or they would have been left quietly under the name of *Leucojum*, or further back still with the old authors under *Galanthus*.—VERITAS.

ROSE CUTTINGS.

OBSERVING in the *Journal* of October 25th a method of propagating Tea Roses on their own roots, and that July and August are the best time for inserting the cuttings, I beg to suggest a simple method which will answer well this present month of November—a method which I have found to exceed any other way; a method which I think will suit all, as glass is not brought into use.

I have come to the conclusion after many experiments, that the best system of propagating Roses on their own roots, whether they be Tea or Hybrid Perpetuals is, about the middle of this month to have a west-aspect border; dig or rake it down fine; then prepare the cuttings, choosing the most ripened shoots. Make the cuttings, say 5 or 7 inches long, have a sharp knife for the purpose. In cutting the end to be inserted make the cut through the base of the joint, trim the rest of the buds off, leaving the cuttings with two or three buds above ground. Have a spade and short line; nick or make a small trench; place about an eighth of an inch of sand at the bottom, then insert your cuttings, taking care to make the soil

firm to them. The sand will induce the cuttings to callus soon. Then they will remain in this dormant state until spring, when they will take root, and will make good plants during the summer.—H. T.

RAVENSWORTH CASTLE.

RAVENSWORTH CASTLE, the seat of the Earl of Ravensworth, is about three miles and a half from Newcastle-on-Tyne. The name Ravensworth, according to Hutchinson, is derived from the Saxon word *raffen*, meaning the standard of Denmark; but Surtees shows the name Raven enters into numerous Saxon words, and in some instances it may be derived from the haunts of the bird itself. Ravensworth Castle, observes Hutchinson, "was a castle long before any records now extant, as there is no license to embattle and kernellate this house found in the archives of the bishop, though of every other house in the county there is that evidence." The Castle stands on the side of a hill sloping gradually towards the river Team. In the time of the Boyntons and Gascoignes it seems to have consisted of four oblong square towers connected by a regular curtain, and probably included a keep or central tower. In 1808 the whole of the old house was taken down, with the exception of two corresponding towers. The erection of the present noble edifice was commenced when the old building was partly removed on a plan of the light Gothic, designed by Nash, and consists of a selection of castle architecture of various periods skilfully brought together. The Castle has three principal fronts; the south one is very handsome, consisting of turrets and façades, some of which are covered with Ivy and have a pleasing effect. A handsome conservatory, built from a plan of one of the family, terminates the west front. Opposite to this on a raised terrace is a handsome fountain; the water falls into a basin from eight leopards' heads, while a powerful jet plays from the centre. The stones used in the building are freestone, and were procured from an adjoining quarry. The north side constitutes the entrance to the Castle, and is very pretty and effective.

The Castle is sheltered on the north by a fine forest of Oaks and evergreens. The south aspect consists of at least three hundred acres of rich meadow land, with here and there trees planted for effect, and it stretches for a mile and a half towards the pretty village of Lamesley, which is beautifully wooded. At the south entrance to the park stands a beautiful lodge in a style corresponding with the Castle. There are several other lodges, all neat and handsome structures, comfortable for the inmates as well as ornamental.

On the private road to Newcastle stands a cross, the common tradition of which is that when Newcastle was visited with a plague in the reign of Queen Elizabeth the people from the country here sold and bartered for their provisions. The cross is a plain shaft on an octagonal pedestal. The manor of Ravensworth contains a valuable and extensive field of coal. The first waggon-ways and the second steam engine used in the north belonged to the Liddells, the family name of the Ravensworth family.

The gardens lie north of the Castle; at the entrance is the Superintendent's house, which is a neat and tasteful structure, and partly overlooks the gardens. The principal range of glass, which is nearly semicircular, is about 430 feet long and 18 feet broad, and is divided into nine houses or compartments, which are all lean-to's. The first, a greenhouse, contains some very fine specimen plants, foremost of which may be mentioned two *Erica Bothwellianus* 5 feet through and 3 feet high; also a fine plant of *Phenocoma prolifera* Barnesii. *Aphelexis macrantha* is fine and healthy. Here is also a *Genetyllis tulipifera*, which is set with flower buds at each joint, and a fine *Chorozema spinosa*, also two *Lisandra macranthas*, which Mr. Moulton is decidedly partial to for the autumn; he starts this plant in heat, and gradually inures it to greenhouse treatment. Here was also *Cassia corymbosa*, a mass of golden yellow, which Mr. Moulton manages to flower six months of the year in the following simple manner:—In February the plant is pruned back to about two eyes of the young wood; it is then potted in a compost of about two parts loam and one part peat, to which is added sufficient sand to make it sharp. He then starts it in heat, say a vinery or intermediate stove, from whence it is removed to a greenhouse to prepare it for being placed outside in the first or second week of June where it does not get the sun too strong; this makes it firm and short-jointed. Here are also some fine *Camellias*, such as the Marchioness of Exeter, rose colour, between

5 and 6 feet high, and also two plants of *Hendersoni* equally as good; these plants were perfect in symmetry, and well laden with buds. Mr. Moulton makes it his practice to leave but one bud to each shoot; by this means he secures an annual supply of *Camellias*. At the east end of this house is planted a noteworthy plant of *Lapageria rosea*, covering about 108 square feet of glass, and its charming flowers were gracefully hanging down in clusters. The second house is a late Peach house, with a Moorpark Apricot on the back wall. The Peaches are *Violette Hâtive* and *Royal George*; while the Nectarines are *Violette Hâtive* and *Pitmaston Orange*. Both trees were ripening their wood well, and were free from red spider. In this house were two fine *Camellias* of Mrs. Abbey Wilder, a white, and also one of *Lowi* and *Chandleri elegans*, equally as good as those mentioned. The third is a late vineery of about 28 feet long, and consists of *Lady Downe's*, *Black Alicante*, and *Trebbiano*. This was an even house of *Grapes* well coloured, and bunches weighing about 2 lbs. each. Mr. Moulton considers *Lady Downe's* and *West's St. Peter's* better varieties than *Black Alicante* for late work, for he thinks the best attribute *Alicante* possesses is its charming colour when placed on the table. In this house were two fine specimen *Azaleas* and three large *Ixoras coccinea superba*, which are to be here for a time for want of better accommodation.

The fourth house is a vineery, which principally contains *Black Alicante* and *Black Hamburgh Grapes*, of which remained some fine examples of both varieties. In this house were some fine specimen *Azaleas*, for Mr. Moulton does not place *Camellias* and *Azaleas* outside after they have done blooming; they are removed into the vineeries and peacheries, and allowed to remain there to make their growth. A liberal and frequent use of the syringe is applied at all times, and thus the houses are kept free from insects. These houses so far are simply heated with flues.

The fifth house is a plant stove with a plunging bed in one end heated by pipes. Here we saw a fine young plant of *Maranta Veitchii* with thirteen large leaves, also some fine *Musas* and large *Stephanotis*, with two or three *Bougainvillea glabras* good, and an *Ixora Williamsi* about 3 feet through and 2½ feet high. Noticeable also were some fine plants of *Eucharis amazonica* in about 10 or 12-inch pots. One of them had nine spikes of flowers with six flowers on each spike. This was the third time of flowering this year. The mode of treatment adopted consists in giving a rest after flowering, then plunging it in bottom heat for a time, after which it invariably throws up flower. Those plants have remained in their pots for some years now. On the side stages here were a quantity of *Poinsettias*, *Justicias*, *Euphorbia jacquiniiflora*, *Eranthemum pulchellum*, and other winter-flowering plants.

The sixth division is a fruiting Pine stove with a plunging bed and hot-water pipes in it. The varieties were principally *Montserrat* and *Providence*. One or two fruits of the latter were swelling off, and would, perhaps, average 5 or 6 lbs. each. At the end of this house were *Cucumbers* in pots, and, plunged in the hotbed and trained up to the glass for the winter, they looked very healthy and strong. On a water tank here, which is covered with a stone slab, was a splendid plant of *Lælia anceps*, throwing up seven flower spikes. This plant remains here all the year round, and the cool bottom seems to suit it admirably. Here were also two fine plants of *Anthurium Schertzerianum*.

The seventh house is an early vineery. The varieties are principally *Black Hamburgh* and *Muscat of Alexandria*. Here were some plants of *Salvia patens* and a fine specimen of *Azalea Roi Leopold* 5 feet through, also other good plants. The eighth house is a second Peach house, and consists of the same varieties as the former. Here were some fine *Bouvardias*, which are grown in a cool frame during the summer, also some large *Camellias*, a good *Eriostemon* or two, and a sturdy specimen of *Erica Aitoniana superba*. The ninth and last house is a late vineery. The varieties are principally *Lady Downe's*, *Mrs. Pince*, and *Black Hamburgh*. The *Grapes* were not quite ripe at the time of my visit, October 4th, although strong fire heat had been applied for some time. Here cuttings are struck of *Begonia Sedeni* in the spring, and planted out against the stonework in front of the houses or against any bare wall, and they flower profusely during the summer. On the Vine borders were seven hundred *Strawberry* pots; the varieties are *President* and *Garibaldi*, which were strong and healthy.

At the end of this range is another entrance to the kitchen garden, to the right of which is a Peach house or lean-to for

early work about 52 feet long, with a division in the centre; it is heated with flues. The lights had been off during the summer, and were just put on at the time of my visit to prepare for early forcing. Near the Peach house is a span-roof stove about 21 feet by 14, with a plunging bed in the centre. In this house were specimen plants of *Allamanda nobilis* and *Dipladenia amabilis*, with the young shoots trained near to the glass, so as to procure all the sun possible; also good *Crotons*, a *Cissus discolor* or two, and a plant of *Dendrobium nobile* about 4 feet through. On the side stage above the pipes were some fine plants of *Calanthe vestita*, with leaves as large as *Phaius grandiflora*. Close to this house are two ranges of pits for forcing *Potatoes*, *Cucumbers*, &c., in, and also one for successional *Pines*. Near to this is a span-roof warm greenhouse of about 24 feet by 12 feet. In it were some fine plants of *Sericographis Ghiesbreghtiana*. Mr. Moulton places this charming plant outside during the summer. On the opposite side of the walk is the *Erica* house, a half-spanned low house, heated with a flow and return pipe. It is a very homely structure about 20 feet long and 12 feet broad, yet in it were the following specimens, all remarkably healthy and possessing good symmetry—plants which any cultivator may feel justly proud of:—*Ericas Austiniana*, *Irbyana*, *Marnockiana ampliata*, *ollula*, *tricolor Hoffordii*, *obovata umbellata*, and *Jacksoni*. These were an even lot of about 3½ feet through and 2½ feet high; but the crowning plant of all was a *retorta major*, 4 feet by 4. This was a real gem. Leaving here you come to the fruiting Pine pit, about 26 feet long and 18 feet wide. The plants were principally *Queens*, strong and healthy, and are expected to throw up next spring for summer use.

The kitchen garden consists of about four acres. The soil is a heavy cold clay; there is therefore great difficulty in the procuring a choice supply of vegetables all the year round. Mr. Moulton experienced great difficulty in growing *Asparagus*, but by adopting the following plan has insured success. When planting he raises the beds about 1 foot higher than the alleys. By this means the plants when young do not go off; and when they get older and are in a state for more nourishment, these alleys are filled up gradually with leaf soil. He also prefers sowing to planting. A quantity of *Asparagus* is annually forced; this is generally done in a late vineery or Peach house, Mr. Moulton believing in strong bottom heat and plenty of air for flavour.

Peas were growing after *Celery*; the varieties *McLean's Gem*, *Ne Plus Ultra* and *Champion of England*, *G. F. Wilson* and *Hair's Dwarf Mammoth*. These are sown in the order mentioned. Onions were not a heavy crop, an unusual thing at *Ravensthorpe*, and many have thick necks, which is the case generally in the north this year. The favourite Cauliflower is *Walcheren*, which is grown late and early. There are also quantities of *Brussels Sprouts*, *Savoys*, *Cabbages*, *Coleworts* and *Broccoli*; the varieties of this last vegetable are *Snow's Early Purple Cape*, *Danvers Pink*, *Carter's Champion*, *Wilcoxe's White*, *Alexandra* and *Late Mammoth*, which generally come in the order mentioned. The soil is too cold for *Potatoes*; they are grown in raised drills. By this means they come earlier and finer.

The walls are covered with *Peaches*, *Nectarines*, and *Apricots*. The former fruits are the same as those mentioned in the houses with the addition of the *Barrington Peach*, which is deservedly a great favourite here. Fires are applied to these walls when the blossom buds begin to expand, and are continued to the end of May; the trees are also well covered with *frigi domo* netting. The *Pears* that do best are *Marie Louise*, *Glou Morceau*, and *Winter Nellis*; the *Plums* are *Victoria*, *Princess of Wales*, *Kirke's*, and *Green Gages*. On the borders are dwarf pyramid *Apples* and *Pears* on the *Paradise* and *Quince* stocks respectively. The varieties are of *Apples* *Lord Suffield*, *Wellington*, *New Hawthornden*, *Cellini*, *Cox's Orange Pippin*, and *Kerry Pippin*; while the *Pears* are *Louise Bonne of Jersey*, *Beurré d'Amanlis*, *Beurré Diel*, and *Williams' Bon Chrétien*. Parsley is grown on the borders for winter, neatly hooped over and matted on the approach of snow. A quantity of *Seakale* is grown and forced much in the same manner as the market gardeners force it near London. It is taken up every autumn; all cuttings are taken off and thrown into a heap till the spring; all eyes are rubbed off but one, and the cuttings are planted in rich ground previously well prepared, and splendid plants are produced for forcing by the autumn.

Near the kitchen garden is a small roseery, which was quite refreshing to the eye after being so long lingering and admiring the culinary part of these gardens. Many *Roses* were in full

bloom; conspicuous amongst them was *Souvenir de la Malmaison*, which is an admirable autumn Rose. We next entered a small walled enclosure oblong in form, which was formerly used as a plunge bath, and now answers the purpose of holding the supply of water for these gardens. This is a charming sequestered spot. Corners and nooks are artistically filled with Ferns, with just sufficient flowering plants to brighten this cheerful yet solitary spot. Here are also large plants of *Osmunda regalis* close down to the water's edge.

Leaving here "fresh scenes of beauty burst upon the view." A little westward is perhaps the prettiest of all the scenery of Ravensworth, for here is a charming lake, small, irregular in figure and outline, and literally clothed to the water's edge with large *Rhododendrons*, some of them 20 feet or more in diameter. These have a huge background of large forest trees. Truly this place must be gorgeous in the month of May.

Near to this lake are two or three common Yews, about 20 feet high, sugar-loaf in shape, and not more than 3 or 4 feet wide at the base—they are most imposing. *Cryptomeria japonica* is 30 feet high, well furnished to the base. Retracing our steps eastward toward the Castle we come to another lake which is not so imposing as the former, and from here the view (fig. 76), of the Castle is obtained. Adjoining the massive pile is the conservatory; it is, like most structures of its kind, not adapted to the successful culture of plants. Camellias are planted-out. Against the walls were *Tacsonia insignis*, *Lapageria rosea*, and *Acacia Riceana*, also Orange trees, *Fuchsias*, and the usual summer-flowering plants, this place being especially reserved for the Azaleas and Camellias during the winter. There is a division in the north end, which is connected with the picture gallery by glass doors. The gallery is 101 feet long, and this part of the conservatory is occupied by



Fig. 76.—RAVENSWORTH CASTLE.

Ferns, with a large *Dicksonia antarctica* for a background, having a head 21 feet through and a trunk of 12 feet high. This Fern has made about twenty fronds this year. It came here in a small pot about sixteen years ago, and at present its fronds measure about 2½ feet across. Here is *Alsophila excelsa*, *Woodwardia radicans*, *Todea superba*, *Asplenium flaccidum*, and *Scolopendrium crispum*. These Ferns seem to revel here in their solitude, and are fit appendages to a picture gallery. They have a gradual slope towards the glass doors of the gallery, and from which they must have a fine appearance by gaslight.

The south terrace front is about 100 yards long and 23 yards broad, with an abutment jutting-out in the centre. In the abutment a little bedding-out is done, and at the end of the terrace, in a small border close to the Castle, a few flowering plants are employed. On the wall is *Clematis Jackmani*, Ivy, and Roses, and at the east end is a splendid *Magnolia*. Leaving the Castle here on the road to the Superintendent's house is a little more bedding-out, just sufficient to relieve the surrounding subjects of turf and shrubs. The pleasure grounds consist of about fifty acres. The following Pinuses are scattered over them:—*Pinus monticola*, 30 feet high, grafted; *Taxodium sempervirens*, 30 feet; *Abies Albertiana*, as thriving as a Larch, 60 feet high; and *Cedrus atlantica*, 25 feet high.

In concluding these remarks it becomes a duty to congratulate Mr. Moulton on the efficient manner in which every depart-

ment is conducted. The local circumstances of soil and climate he successfully grapples with, although not possessing many of the modern improvements in the glass structures. He has lived here for thirty years, and speaks in the highest terms possible of the kindness he has at all times received from the Earl of Ravensworth. For twenty years Mr. Moulton has exhibited at the principal north country shows with great success, and for a long time was the principal support of the Newcastle Horticultural and Botanical Society; and even now that this Society is on a firmer basis so as to entice some of the best exhibitors from the south, Mr. Moulton still honourably holds his own, for in the autumn show he took first and second prizes for the three best *Ericas*, and first for the three best flowering plants, and first for table decoration.—J. C. A.

TOMATO OR LOVE APPLE.

THIS, *Solanum lycopersicum* of botanists, is thus noticed by the historian of cultivated fruits:—"It is a native of South America, and in all probability of Mexico, from whence it appears to have been brought by the Spaniards, who, as Barham observes, use it in their sauces and gravies, because the juice, as they say, is as good as any gravy, and so by its richness warms the blood. Dodoens, in his *Pemptades*, published at Antwerp in 1583, described it as growing at that time in the



Fig. 77.—VICK'S CRITERION TOMATO.

continental gardens, and says that its fruit was eaten dressed with pepper, salt, and oil."

It appears according to the "Hortus Kewensis" to have been cultivated in England as early as 1596, and Gerard

mentions it in his work, which was published in 1597, as growing in his garden. Parkinson, whose works were published in 1656, mentions it as being cultivated in England for ornament and curiosity only. For a long time, however, it has been grown

for use as well as for ornament, and is increasing in esteem yearly. In America it is extensively cultivated, and much attention has been given there to the raising of improved varieties. Some of these have already become popular in England, such as Hathaway's Excelsior, The Trophy, and some others, which are remarkable for their smoothness and general good quality.

The engraving which accompanies these notes represents the most recent of the American varieties—namely, Vick's Criterion Tomato, which has been awarded a first-class certificate by the Royal Horticultural Society. This beautiful variety was raised by Mr. James Vick, the well-known seed grower of New York. It is a very prolific well-shaped variety with smooth skin, very distinct in colour, the fruit being of a cornealian red. The seed has been placed in the hands of Messrs. James Carter & Co. for distribution.

PRACTICAL NOTES ON CAMELLIA CULTURE.

BEGINNING with the house. The Camellia being a comparatively hardy evergreen it will succeed, as far as growth and appearance are concerned, in almost any description of house. They do well especially as permanent plants in conservatories, for when not in flower the foliage is ornamental, and other flowering plants can well be arranged about them all through the year. Houses of Camellias may be seen, too, in good condition where there is much more of architectural building about them than would suit many other kinds of plants. Still, to make the best of Camellias there can be no doubt of the ordinary span-roofed house being as well suited to their culture as any kind of structure that can be devised, because such a house can be made to suit all seasons; for in dull seasons the plants will set their buds best in such a house, and if it be a bright summer when the plants are making their growth sufficient shade can easily be applied to keep the foliage from being injured.

The shading, or influence of shade, has a great deal to do with the successful cultivation and blooming of the Camellia. It cannot be said that the Camellia will not thrive as a plant in a shady place in a cool house, but will it flower well? or will the flowers be other than mostly of an inferior character under such circumstances? Numerous instances can be seen where good healthy Camellia plants will not form flower buds in too shady a place; and, besides, the character of many flowers under such circumstances is so different they are scarcely recognisable. The influence of sufficient light is most necessary after the wood is made and the flower buds are forming. It is difficult, no doubt, to regulate shading to a nicety when many other plants require to be attended to; nevertheless, it can be done near enough for practical purposes. Shading, as I have noted, is most required in the early part of summer to keep the foliage, which is then tender, from being scorched; very little of shading is required afterwards, especially during such a summer as the last; but in hot dry summers a little more shading would be beneficial just to keep the foliage from being in any degree "browned."

It is a common plan and effectual in shading to paint the glass roof outside with a liquid made up of churned milk and whiting, the same requiring to be attended to and renewed after thunder showers, which will often wash it off. The only objection, perhaps, that can be advanced against this kind of shade is that when it is on it has to stay on, whereas a canvas rolling shade can be made to suit circumstances; in dull weather it can be rolled up, and in hot put down. In a sunless season the latter shading would be best, and in a bright one the whitewash will answer very well, it having the advantage of economy with it. It might be mentioned that this last season, which was not over-bright, a very thin whitewash was put on a span-roofed house, and now the appearance of the plants for flowering is as good as need be desired. The wash was only put on once when the young wood was being made, allowing the weather to take it off for ripening the wood.

It may be singular to say, though evidently it is quite true, that in some places Camellias do much better than they do in others, the attention given being practically similar. This may be through the bad water or unsuitable soil also of the neighbourhood. If it were in the former case, no doubt the evil could be remedied by securing a sufficient quantity of rain water conserved in large tanks to keep up the supply all through the year; if in the latter, a change of soil is the only remedy.

The soils used in Camellia culture afford a subject that is

often under comment. Sometimes the plants are found doing well wholly in turfy peat, and again they are seen flourishing in yellow loam. As regards the latter case, however, it is not every yellow loam that would be advisable to use for the Camellia. A good soil that will suit the Camellia generally is one composed of two parts of turfy loam and one part of turfy peat, with a slight mixture of sand.

Although the soil used is a very important matter in Camellia culture, perhaps it is not more so than proper and steady attention as regards watering. When the plants are making their growth they should be watered liberally, syringing them also regularly. Still the soil in the pots or in the beds should not be allowed to be sour, and after syringing care must be taken to observe that wetting from the syringe is not a true index of the under-surface soil. After the growth is made syringing should be withdrawn and less watering given, keeping the plants just in a moist condition at the root. The extreme on the one hand of over-watering to injure the roots, and under-watering to dry them up, are the two great evils in the unsuccessful flowering of Camellias.

Whether planted out or grown in pots, Camellias in their flowering season are very ornamental. When planted out it may be said they involve less labour in attention as regards watering than when grown in pots, but then it is necessary to know the condition of the border so as to know how to water provided the soil be of a proper kind. When the plants are in pots they are much more under control, and, excepting the very large plants, perhaps they are better in pots. When Camellias are planted out they are what might be called fixtures, whereas when in pots they can be advanced for early flowering or moved about in the conservatory to suit arrangements of colour, &c., and when well bloomed in pots they give ample satisfaction. There can be no doubt, where planted out, a greater amount of vigour of plant is secured, and perhaps larger blossoms; but for abundance of flowers plants in pots will often be quite equal to those planted out. By having plants in pots, too, the Camellia period can be so much prolonged, which is a great advantage.

A good time for planted-out Camellias to come into flower is about Christmas. By having a few early plants the period of flowering may commence in September. Good plants in pots of *fimbriata alba* are fine conservatory ornaments, and they will flower sooner than could be expected from planted-out specimens; also it may be especially noticed that a few early Camellia specimens coming into flower, say in October or November, last a long time. These as soon as done flowering may be put into heat to bring on in the same way for the succeeding year.

The temperature required for successful cultivation is one easily to be attained, for though Camellias require steady treatment within certain limits, they are not susceptible of injury by a few degrees' difference in temperature usually; sudden changes, however, must be guarded against. A few degrees of frost might bring down the buds, and the same result would probably occur were well-forwarded plants placed suddenly into heat. A temperature of from 40° to 45° in winter, with a little additional heat to the natural summer's warmth, will suit the Camellia well. As regards ventilation, it is surprising how little of this is required for Camellias excepting in very hot weather; but the fact of their growing well in dark and shady places will easily account for this. In winter, for example, they succeed well in houses with scarcely any ventilation, excepting, perhaps, the door open on mild days.

If the Camellias are in robust condition many of the sorts towards the end of the year may require disbudding. If large fine flowers are wanted, one bud on a shoot will be sufficient. Some kinds usually only form one bud at their points, and when in flower they make a very good show; still for ordinary purposes it will be well to reduce on healthy plants the buds to two or three in different stages on each shoot. Disbudding of leaf buds, too, may be adopted to keep the plants in shape instead of using the knife further. It is not good practice to cut-in Camellias too severely if flowering condition of plant is aimed at; when too much cut-in they make wood instead of flower for a year or two.

The best time of the year for potting Camellias is either after they have ceased flowering, before they make their young wood, or after the wood of the season is made and the buds formed. If the plants are short of pot room and well advanced in bud a top-dressing of Standen's manure spread over the surface of the soil will greatly assist the opening of the flowers, and may be better than potting if that operation could not be

done at the right time. Camellia plants in good compost flower well without any artificial manure; Stauden's, however, can be supplied safely in most cases. This mode of manuring, or liquid from the farmyard, is the best for supplying manurial nutriment to the Camellia. In potting, one of the principal and first item to attend to is proper drainage (which is equally important with plants planted out); and when putting the earth round the roots the compost should be made firm; if in pots leave sufficient room on the surface to hold water.

As regards keeping the plants free from vermin, an occasional smoking from tobacco paper will keep down thrips and green fly. If the latter only infest the plants they can be removed by frequent syringing, as they usually only make their appearance in the growing season when syringing is in operation. As refers to other vermin, if the plants are clean to start with there is not much trouble with them; but of late an objectionable insect seems to be making headway in the country, which should, if possible, be kept under and eradicated. In the winter time it causes a great deal of filth about the stems of the plants and leaves; in spring, when the sun shines, it may be best observed moving about the bark like a small brown scale; when the plants are put in heat it grows to a larger size, and ultimately throws off white down resembling the mealy bug. This is the scale in a breeding state, and perhaps the best way to get rid of it is to go over the plants regularly and remove every one in this stage. If this insect makes its appearance in a collection of plants it will soon go over the whole. Painting the hard wood the same as Vines' stems and washing the foliage is not sufficient.

Before Camellias come into flower they look all the better for having their leaves sponged with soap and water; with clean foliage the flowers show to so much better advantage.

It may be remarked that Camellias in pots for winter flowering are not so frequently seen as they deserve to be, and collections of Camellias of various sizes in flower make a splendid show of themselves. Camellia flowers can be had of every desirable hue, and the bud variation in the Camellia is also very interesting.—R. M. A.

ROSE DEVONIENSIS.

In the list of Roses named in the Journal of October 4th, page 265, the name of Curtis is given as the raiser of the Devoniensis, but the time is not stated when the Rose was sent out to the public.

The Rose above named was raised by George Foster, Esq., of Catland House, about a mile distant from the towns of Devonport and Plymouth. I was engaged in the service of Mr. Foster in 1837, and the Rose in question flowered for the first time the following year, and I think I am now the only person living that saw the first or maiden bloom of it.

From Mr. Foster it passed to the firm of Messrs. Lucombe, Pince, & Co., of the Exeter Nurseries, Exeter, and was by them exhibited in London and awarded a Banksian medal by the Royal Horticultural Society. From that fact becoming known the orders for it became so great that a great delay took place before they were executed. I think it was sent out about 1842 or 1843.—JOHN CONNING, *Redhill, Surrey*.

LAMBETH CHRYSANTHEMUM SHOW.

NOVEMBER 12TH, 13TH, AND 14TH.

To organise and support a floral society within a one-mile circle of Horsemonger Gaol might appear to many almost ludicrous, yet such a society exists, and a show was held on Monday last and two following days at the Borough Road Lecture Hall, which was worthy of extensive patronage. In little "toy" houses and dingy back courts the productions for this Show were grown, and amongst the exhibitors were to be found shoemakers, engineers, and policemen, and the result of their endeavours was a most praiseworthy exhibition.

The schedule consisted of thirty-nine classes, all for the encouragement of the Chrysanthemum. A more varied schedule we have scarcely met with, and right well were the classes represented, in fact in some cases the competition was very keen; but the date fixed was a little too early, especially for specimen plants, but the cut blooms taken collectively were above the average, and good stands of incurved, reflexed, Japanese, large-flowering Anemones, Anemone Pompons, and Pompons were staged.

Mr. Wilher was awarded the first prize for twenty-four cut blooms, distinct, with Princess of Wales, Prince of Wales, Guernsey Nugget, Nil Desperandum, Mrs. Dixon, Bella Donna, Beethoven, George Glenney, Lady Talfourd, General Bainbridge,

Lady Hardinge, Antonelli, White Globe, Fingal, Novelty, Miss Mary Morgan, Prince Alfred, Eve, Gloria Mundi, Mrs. Halliburton, Orange Perfection, Lady Slade, and Catherine Talfourd. In the class for six incurved blooms of one variety there were eleven competitors, and the first prize was awarded to a variety named Mr. Bunn, a very fine golden flower. Mr. Summers was awarded the first prize for twelve Japanese varieties in not less than eight sorts, and had very fine blooms of James Salter, Erecta Superba, The Mikado, Garnet, Elaine, The Cossack, Hero of Magdala, and Peter the Great; and Mr. Fill was awarded the first prize for twelve Anemone blooms in not less than eight varieties, with grand examples of Prince of Anemones, Acquisition, Gluck, Louis Bonamy, George Hock, George Sand, Margaret d'Anjou, and Lady Margaret. The same exhibitor was worthily awarded a first prize for three trained standard Pompons, which deserve more than a passing word of praise for their excellence. The varieties were Antonius, Marie Stuart, and Calliope. Other successful exhibitors were Messrs. Halstead, Clark, Truelove, Tracey, Pryer, Addison, and Ball.

Our space will not allow us to give further details, but we must compliment Mr. Summers, the Secretary, for the neatness and general arrangement of the Exhibition. Such uniformity we have never seen before; the stands were all made and painted alike. The names of every variety were plainly written on neatly bordered tickets, and the prize cards were secured at the back of each box. A better arranged show we have never seen.

NOTES AND GLEANINGS.

At a general meeting of the Fellows of the ROYAL HORTICULTURAL SOCIETY, held on the 6th inst., W. Haughton, Esq., in the chair, the following candidates were duly elected Fellows of the Society—viz., Mrs. Charles Carus-Wilson, T. H. Ford, John Gordon, Sir Stuart Hogg, Mrs. Morgan, G. Neilson Tucker, Col. Ravenhill, R.E., W. Hussey Walsh, and Charles Wollaton. James Lewis and Henry Hepburn were also elected guinea members.

THE record of WINTER CUCUMBER CULTURE at Eastnor on page 339 is a type of the sound gardening practice carried on there, but there is much more to be seen at Eastnor than superior fruit culture. The pleasure grounds are extensive, upwards of 100 acres in extent; also beautiful, for they contain hundreds, rather thousands, of handsome Conifers. The Castle is a splendid pile, a pure example of Norman architecture, and the lake in front picturesque. A fine new terrace is being formed near the Castle, conceived with excellent taste and executed in superior style. There are only a few, very few, flower beds in the grounds, and fortunately none on the terrace, for modern bedding would be incongruous associated with the severe grandeur of such a building and its appendages. A place might probably be found at Eastnor for Geraniums, Golden Feather, &c., but beds of such plants on the terrace would impair its dignity and mar, not enhance, its beauty. Eastnor is beautiful without flowers, and is a garden worth a long journey to see at any time, but especially in summer, when the grand old Vine—the glory of the fruit department—is bearing its youthful crop.

WE have received from Rev. F. D. Horner, Kirkby Malzeard, Ripon, a ripe head of seed of the white Arum *CALLA ETHIOPICA*. This specimen ripened under the care of Mr. Hebblethwaite, gardener to G. Serjeantson, Esq., Camphill, Bedale, and when in a fresh state was of a pure lemon colour. It is the first specimen we have seen from Yorkshire.

MESSRS. HARRISON & SONS announce that their eighth annual EXHIBITION OF FARM ROOTS, &c., will take place on the 21st and 22nd inst. in the Market Place, Leicester, when silver cups and other prizes will be awarded for the largest and handsomest roots grown from seed supplied by them. The prize roots will be exhibited in the Seed Warehouse on Saturday, November 24th.

MR. TEBB informs us that he has received a letter of thanks from the Royal Horticultural Society for the PATENT FUMIGATORS which he exhibited at South Kensington on November 6th.

IN our report of the last meeting of the Fruit Committee of the Royal Horticultural Society we mentioned that a cultural commendation was awarded to Mr. Wildsmith for excellent but not quite perfectly coloured bunches of *GROS COLMAN GRAPE*. We have since seen a still finer example of this Grape grown by Mr. Wildsmith. Many of the berries are quite 4 inches in circumference, and are nearly jet black; the quality is also very good, better than we have hitherto

tasted Gros Colman. Mr. Wildsmith would do good service by stating how he grows this Grape so fine and colours it so well. The bunch to which we refer is a masterpiece of superior cultivation.

— WE recently noticed in Mr. Wills's Nursery at Anerley a very distinct new FERN which has been raised by Mr. Bause, who states it as being the result of a cross between *Adiantum trapeziforme* and *A. decorum*, to both of which it bears resemblance, yet it is totally unlike either. Its novelty consists in the pinnae being quite reflexed, as if the plant were asleep; indeed, it might popularly be termed the Sleeping *Adiantum*. It is at the same time free in growth and very elegant. Such kinds as *Adiantums cuneatum*, *decorum*, *scutum*, and *gracillimum* are raised from spores by thousands, and still the demand can scarcely be met. *Dracenas* too command notice, both by their great numbers and excellent condition. The newer varieties are in fine colour, and the older, such as *terminalis*, are represented by thousands of handsome plants. They are worthy of note and inspection.

— MESSRS. CARTER & CO.'S METROPOLITAN ROOT SHOW in the Agricultural Hall, Islington, is the largest that has ever been held there. The gallery, which is a quarter of a mile in length, surrounding the Hall is occupied with farm and garden produce of exceptionally good quality. Mangold Wurtzels owing to the cold season are perhaps not quite so numerous nor fine as last year; but the Swedes and Turnips exceed both in numbers and quality any previous display that has been arranged in the building; Kohl-rabi is very good, Cabbages immense, and Potatoes, Onions, and Carrots excellent. The collections of vegetables contain admirable examples of nearly everything in season: especially superior are the Turnips—Smart's Monsetal, Early Snowball, and White Stone; Autumn Giant Cauliflowers, Carter's Perfection Brussels Sprouts, and Leeks. There are also capital dishes of Hathaway's Excelsior Tomatoes. The prizes were not awarded when we left the building.

— No decorative plants in Covent Garden Market are now more attractive than ROMAN HYACINTHS. Five bulbs are grown in a 48-sized pot, and the effect of the pure white masses of elegant bells is very pleasing. These miniature Hyacinths are increasing in popularity yearly on account of their earliness and usefulness. They are as valuable for cutting for bouquets, &c., as they are acceptable for decorative purposes in pots.

— ALTHOUGH the present autumn has not been particularly favourable for the opening of CHRYSANTHEMUMS, yet an excellent display is provided at the Crystal Palace. Mr. Thomson has, amidst his multifarious duties, contrived to grow two thousand plants, and has grown them well. They are in exuberant health—admirable in foliage and blooms. The new variety, Golden Empress of India, is likely to prove a real acquisition. Many blooms of it are extremely fine, and the colour—soft osany yellow—is very pleasing. *Jardin des Plantes* and its bronze variety are splendid; as also are White Globe, Lord Derby, Alfred Salter, Prince Alfred, Pink Perfection, and White Venus. The Beverlys have passed their best. They have been excellent. Cassandra—white, also fading—is noteworthy as one of the best of its class; and the popular trio—Mrs. G. Rundle, Mrs. Dixon, and George Glenny—are remarkably fine. Amongst the reflexed varieties, many of which are so valuable for decorative purposes, *Hermoine* and its golden variety, Dr. Sharp, Julie Lagravère, Barbara, Progne, Beethoven, Sam Slick, and Maréchal Ducoc are in admirable condition. The Japanese varieties are represented by James Salter, Elaine, very fine; Cry Kung, rosy purple, excellent; and the still deeper and newer variety *Gloire de Toulouse*. The plants are arranged at the front of the great orchestra, and are an important feature of the attractions of the Palace.

— MR. ROBERTS, gardener, Charleville Forest, Ireland, has won, according to the *Irish Farmer's Gazette*, the honour of having grown the HEAVIEST BUNCH OF BLACK GRAPES yet produced. The bunch alluded to was cut the other day on occasion of the rejoicings which took place at Charleville Forest on Lady Emily Bury attaining her majority. It was fine in shape, berry, and finish, and weighed 23 lbs. 2 ozs. The breadth across the shoulders measured 22 inches, the length from the footstalk to the point of the bunch a little over 2 feet. We thought it a pity that this noble bunch was not sent to South Kensington by Mr. Roberts, but the difficulty of getting it there without the bloom being spoiled in transit no doubt deterred him from forwarding it. It would no doubt have caused a sensation there, and been justly regarded as the most gigantic

and best proportioned bunch of black Grapes yet produced in British gardens. The Vine which produced this monster bunch and the more moderate monsters of last year has been about four years planted. It is growing in a lean-to house. The soil of the border is sound and simple. Mr. Roberts eschews complicated composts, having faith in the wholesome and satisfying nourishment afforded by the loam obtained from the surface of the Charleville deer park. Mr. Roberts regards his famous Vine as a particular and superior variety of Gros Guillaume.

— MR. J. MUIR writes to "The Gardener" that PARSLEY which has been thinned has proved a failure, while the plants in rows which have not been thinned have grown luxuriantly. Mr. Muir further observes that Carrots very often go off similar to Parsley, and next year he will sow a few rows thinly and not thin the plants; and also try a bed or two of Onions in the same way, as Mr. Pettigrew of Cardiff Castle always sows his Onion seed thinly, never thins the plants, and always secures splendid heavy crops.

NOTES ON VILLA AND SUBURBAN GARDENING.

Now that the leaves have mostly fallen from deciduous trees no time should be lost in collecting them. The trouble that leaves give while falling, and the untidiness gardens generally present at that time, are more than balanced by the usefulness of the leaves for mixing with manure for hotbeds. They are valuable also for covering over Rhubarb and Seakale. Their heating power is not so violent as stable manure and they are more lasting; if collected when dry and laid in a large heap they will keep a long time. Those collected in moist weather should be used first. Lawns should have a thorough sweeping and rolling to render them fresh, smooth, and neat. In places where the grass has grown more than is usual at this season of the year owing to the mild weather, the mowing machine may be used on a dry day. It will be well to set the machine a trifle higher than usual, and when the mowing is finished give the machine a good cleaning and oiling before laying it by for the winter. Pull out or otherwise destroy weeds in walks, and frequently roll the gravel with a heavy roller, which will not only make the walks pleasant at the present time, but will prevent the wet from penetrating, and the frost from raising them up.

In the kitchen garden the usual winter operations, such as digging and trenching, may be proceeded with, and if early Peas and Beans are much in request a sowing of each may be made on a south border. If the winter is mild there will be a gain of a week or two in gathering, but unless gardens possess the advantage of a warm and dry soil it is almost useless to attempt sowing at present. Sow the seed thicker than recommended for spring sowing, and in shallow rows. Chopped furze placed over the seed will prevent the ravages of mice, or red-leaving the seed is said to answer the same purpose. Some cultivators lightly steep the seed in paraffin. A layer of coal ashes placed over the rows on the top of the soil is also a great protector during sharp frost. William I. Pea and Carter's First Crop are the sorts suitable for present sowing, and of Beans the Early Longpod. Cauliflowers under hand-lights and frames must be constantly looked over. With us the slugs have been very busy; we have caught numbers, and have given the plants a good dusting of lime and soot. Make good all vacancies and expose the plants night and day unless severe frost should set in, when they should be covered up every evening. Globe Artichokes should be protected around the stems with litter or common bracken, and Jerusalem Artichokes should have the stems cut down and a layer of a similar nature scattered over them to prevent frost from penetrating the soil. Parsnips are always better flavoured when left in the ground until wanted, and a layer of bracken or litter placed over the bed will permit the roots being dug-up during severe frost.

FRUIT TREES.—It is often a matter of grave consideration for owners of small gardens to select the best and most prolific-bearing sorts from the vast number of varieties in cultivation. The present is the best time for planting, and the following varieties are recommended for their hardiness, free-bearing, and excellent table or culinary qualities:—Culinary Apples—Keswick Codlin, one of the earliest and a sure bearer; the fruit may be used for tarts in a very young state. Lord Suffield, a large-sized early sort and an immense bearer. Young trees may be seen loaded with fruit when not more than two or three years old. Cellini, an excellent cooking Apple. The tree is a very free bearer and hardy, its late blossoming generally secures a crop; it is useful also as a dessert fruit, and is in season during October. Beauty of Kent, a large Apple of excellent quality and a very free bearer. We have gathered fruit from this variety weighing 18 ozs. In season from October till January. Hawthornden, an early and abundant bearer. Wellington, or Dumeau's Seedling, a very heavy bearer and the fruit handsome, and keeps well all through the winter; a very valuable variety.

Dessert Apples—Irish Peach is one of the best early kinds grown; it is a beautiful Apple of rich flavour; the tree is a free bearer, ripe the first week in August. Kerry Pippin, a free bearing early kind of fine aromatic flavour; in use during September and October. Cox's Orange Pippin is, taking into consideration all its good qualities, undoubtedly the finest of all dessert fruits. The tree is a great bearer, and the fruit is of good size and for flavour is unsurpassed. Where there is only room for one tree to be grown it should be Cox's Orange Pippin. King of the Pippins is a constant bearer; the fruit is of good quality, and is in season during the early part of winter. Court-Pendu-Plat is a valuable late dessert Apple, and the tree is an abundant bearer; it is in use during December and the spring months.

Of Pears Jargonelle is a good early variety, but will not keep long after being ripe. Williams' Bon Chr tien is a very rich-flavoured Pear, a constant bearer, and suitable either for dwarfs or standards. If the fruit of this excellent Pear is gathered at two or three different times the season can be prolonged; ripe in September. Louise Bonne of Jersey is an immense cropper, of splendid quality, ripe during October. Marie Louise, a well-known excellent variety, ripe during October and November. Beurr  Diel, a large-sized free-bearing variety, ripe in November. Beurr  Bachelier, a hardy, large, handsome, and excellent Pear, ripe towards the close of the year; and if late Pears are required, Josephine de Malines and Winter Nelis may be added.

Of Plums Green Gage, Transparent Gage, and Coe's Golden Drop for dessert; and for cooking, Prince of Wales, Victoria, and Pond's Seedling. White Magnum Bonum and Orleans are also useful varieties.

May Duke, Napoleon Bizarreau, and Governor Wood are excellent Cherries, and the Morello is useful for preserving and for tarts. Three good Peaches for a wall are Royal George, Grosse Mignonne, and Noblesse—these are all free bearers and of superior quality; and three good Nectarines are Lord Napier, Violette H tive, and Pitmaston Orange.

In planting make the stations of sufficient size to allow the roots to be spread out in their natural position, placing the trees about the same depth as they were in the nursery, which will be easily seen by the appearance of the bark. Carefully place the finest and best soil around the fibres, and if the soil is light slightly treading it will make it firm. It is necessary to place stakes to all newly planted fruit trees, and care must be taken to prevent the stakes from rubbing the bark and causing wounds. A piece of matting or cloth can be placed between the tree and stake, which if made secure with tarred string will prevent the trees from being blown about, and will enable them to become established the sooner.—J. W. MOORMAN.

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

HARDY FRUIT GARDEN.

ALL out-of-doors operations may be performed amongst fruit trees with some degree of pleasure when the weather is so mild as it has been during the last week or two. Pruning and nailing wall trees has been proceeded with, not that much of either is required, but it is always necessary to look over the trees. When the shreds are very much decayed all over the tree, it is best to remove all of them and to re-arrange the entire tree. This sometimes requires to be done when the branches become weak and are thinly placed at the base of the tree. When this has been the case we have been able to cut-out some of the weak branches at the base altogether, and then bring the others down to take their place. The centres of the trees are usually very easily filled-up with young wood. The skilful cultivator will manage it so that nearly the whole of the wall is covered with bearing wood. Everyone knows the tendency that fruit trees have to extend the radius of bearing wood from their base, leaving stems destitute alike of either wood or leaf buds. No amount of skilful management can alter the nature of the trees or altogether counteract the effects of this tendency, but whenever it is possible (as it often is), young bearing wood should be trained over the main stems, not only to hide them but also to increase the area of bearing wood. Trees trained on what gardeners call the fan system are most liable to show a number of naked stems; by this method of training we fancy is the best for Peaches, Nectarines, Apricots, Plum and Cherry trees. Apple and Pear trees are usually trained on what may be termed horizontal cordons—that is, an upright main stem with horizontal branches 9 inches apart. By constant summer pinching or pruning the spurs are apt to become crowded with useless wood. This must be thinned-out now, leaving the most prominent buds nearest the main stem. For the largest branches it is best to use tarred twine to fasten them to the wall, shreds are not strong enough. A stout nail should be driven firmly into the wall, then tie the twine to the head of the nail, fasten it round the branch and draw it in tightly, allowing, however, a little room for expansion.

Vines may now be pruned and nailed to the wall, and we would still insist on the importance of frequently renewing the

old wood by training-up young rods. If previous directions have been followed this will have been done, and all that is required now will be to cut-out the old and exhausted wood and to shorten the young growths. It is not implied by saying this that all old wood that has borne fruit should be cut out, the young wood of this year will be the old wood at next pruning time. What we would do is this: no wood would be allowed on a 6-foot wall older than two years, on a 9-foot wall than three years, and on a 12-foot wall than four years. This treatment is especially applicable to the Royal Muscadine or similar Vines best adapted for cultivation out of doors. The lateral growths should not be too closely cut-back to the main stem. We usually allow three eyes, and one of the growths is almost sure to have a bunch of fruit; the other two may be removed.

PINE HOUSES.

We have been cutting fruit of Charlotte Rothschild and Smooth-leaved Cayenne, but were not able to keep the temperature high enough, consequently the fruit, though juicy, was not of superior quality. It will not do at this time of the year to ripen the fruit in a lower temperature than 65 , if it ranges between that and 70  all the better. The utmost caution is required in watering. In careful hands manure water benefits Pines very much, but if injudiciously applied much damage results to the fruit. If the plants are freely supplied with manure water up to the time of the fruit colouring, in all probability it will be black at the core. It is absolutely necessary to leave off using manure water about the time the fruit takes its second swelling. If the soil is moderately moist water must be withheld from the time the fruit shows signs of colouring. In our beds, where the pots are not far from the pipes, there is more danger of the roots becoming dry than there is when they are plunged in deep beds of moist leaves where the heat is kept up by fermentation.

Suckers that are just established in the small pots in which they were potted early in autumn or late in summer are kept in a temperature of 55 ; they do not receive much water. They might be grown on a little faster if necessary, but usually we have not room to pot them until May.

We have heard a little of new Pines within the last two or three years, but it will be some time before anything will beat the sorts we have grown for many years. The most recent of ours is the Charlotte Rothschild, but all points considered, although a most noble fruit, it is not equal to Smooth-leaved Cayenne. It is generally understood that there is a good and bad strain of the Cayenne. We have had the fruits decay before they were ripe, but this has generally happened in spring when fierce sun has scalded the fruit, coming suddenly upon it after the dull dark days of winter; we usually just lay a sheet of newspaper over the crown to protect the fruits from injury. Is it not possible that this weakness in the Smooth-leaved Cayenne has led people to believe that there are two varieties? The Queen holds the same position amongst Pines that Black Harzburgh holds amongst Grapes, and it is even now more valuable owing to the fact that nearly all the St. Michael's Pines are Cayennes, and these being imported in quantity at certain seasons very much depreciate the value of home-grown fruit. Good Queens are not only valuable for home consumption, but they always command a high price in the market independent of any glut from abroad. If it is intended to pot any plants in February the soil for this purpose ought to be put in a dry place, as it will not be in good condition for potting if exposed to the wet during winter. Good, sound, moderately clayey loam from an old common where Brackens grow freely answers well for Pines.

GREENHOUSE AND CONSERVATORY.

If a greenhouse or conservatory is to be furnished in first-class style it must contain specimens well grown of the finest Cape and New Holland plants, but these will not make an efficient display alone. At the present time the different varieties of Zonal Pelargoniums make a most effective display, and small plants are more useful than large specimens, as by growing a number of plants in 6-inch pots greater variety is obtained, and the variety is now almost endless. There are pure white flowers, and others blush with pink centres, salmon colours of various shades, rose and pink, red, scarlet, and deep crimson. Then how easy it is to grow them! The cuttings are inserted about the end of March, one in the centre of a small 60-sized pot. The pots are placed on a shelf near the glass in the greenhouse, where they receive plenty of air, but not much water until they commence growing, when they are more freely watered. In April they are placed in a cold frame. In May the plants are shifted into small 48's, and in July into 6-inch pots. From the end of May until the end of September the plants are placed out of doors, and after taking them into the house they are supplied with manure water at every alternate watering. In order to have a strong healthy bloom in November the plants must not be allowed to exhaust themselves by bearing flower trusses in summer; these must be removed before the flowers open. The best potting material is turfy loam four parts, decayed manure one part, and one part of leaf soil,

sand to be added if necessary. The withered flowers must be removed as often as possible, and the stages and paths be kept clean.

Stage or show Pelargoniums, including the fancy class, have now filled their pots with roots and require to be repotted. We have usually potted them early in February, and from small plants in 6 and 7-inch pots we obtain a long and continuous bloom, more so than is the case with those potted now. Autumn potting produces a mass of bloom all at once rather than a long succession of trusses. Mr. Ward of Leyton, who exhibited this class of plants most successfully, used to pot in October those intended for the first shows, and in November for the latest bloom. Those who follow his example and obtain the same results will have no reason to complain.

Cinerarias and Calceolarias are now growing freely, and the growths must be tied-out as they require it. The thick leathery leaves should be hanging over the sides of the pots or hiding the surface of the ground. Fumigate with tobacco smoke until not a single green fly can be found on any of the plants.

Chrysanthemums are, as a rule, late this year, but we have fine blooms of many of the sorts now fully expanded. The flowers on specimen plants are, as a rule, the latest. Mrs. Geo. Rundle and its golden sports, also Aurea Multiflora, Prince of Wales, &c., will soon be in flower. The single blooms and also the Japanese varieties promise to be very fine with us. The object now is to keep the blooms in perfection as long as possible, and to this end no more water should be spilled in the house than what runs through the drainage of the pots in watering.—J. DOUGLAS.

TRADE CATALOGUES RECEIVED.

Kelway & Son, Royal Nurseries, Langport, Somerset.—*Catalogue of Gladioli.*

Jonathan Booth, Florist, Pole Lane, Failsforth, near Manchester.—*Catalogue of Carnations and Picotees, Pinks and Auriculas.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

BACK NUMBERS (R. P.).—You can have all the numbers you refer to.

CORONILLA INFESTED WITH SCALE (*A Lady*).—Make a strong solution of Fowler's insecticide and dip the plant in it or syringe, repeating the operation three or four times if necessary. Afterwards syringe well with clean water.

REPOTTING CYTISUS RACEMOSUS (*Idem*).—It will do no harm to take your large plants out of pots and replant them in tubs now if you particularly wish to do so, otherwise it is preferable to do this after the flowers have faded.

TEA ROSES (*E. T. H.*).—All Tea Roses flower freely on their own roots when the plants are well cultivated.

POPLARS FOR A SCREEN (*A. B.*).—The Black Italian Poplar is the most rapid-growing of all the Poplars, and answers well in a town. Plant them 12 feet apart with a view to the ultimate removal of every alternate tree. The answer to another correspondent last week about *Taxonia Van-Volkemi* is exactly what you require.

AMARYLLIS AFTER FLOWERING (*Sambo*).—Gradually reduce the quantity of water, giving very little during winter, but do not suffer the soil to become dust dry, and repot in March.

CULTURE OF HERBACEOUS CALCEOLARIAS (*A Lover of the Calcey*).—No artificial heat is required except to exclude frost. Keep your plants upon a light airy shelf near the glass. Repot from time to time as soon as the roots touch the sides of the pots in soil consisting of equal parts of loam and old rich manure, with about a fourth part each of sand and pounded charcoal, taking especial care to use plenty of drainage. Attend well to watering, and fumigate with tobacco paper to keep down aphides. For large specimens it is necessary to nip out the centre of the plant to induce it to form a strong lateral growth. Cease repotting as soon as the flower stem begins growing, and then substitute coddling water or sewage for the clear water. By close attention to this simple formula you may grow plants for exhibition with success and derive much pleasure from the work, for no plant with which we are acquainted rewards one better for care and attention than does this.

PROPAGATION OF HARDY HERBACEOUS PERENNIALS (*J. B.*).—It is much too late in the season for propagation by cuttings now; you may, however, increase your stock of many kinds by division. We may remind you that plants of this class are not generally used for spring bedding. To have your beds green throughout winter and gay with flowers in spring you should plant them immediately with such hardy annuals as *Silene pendula*, *Saponaria calabrica*, *Myosotis*, *Limnæthes*, *Iberis*, and *Nemophila*, and with them such perennials as *Pansies*, *Coincys*, *Primroses*, and *Hepaticas*.

TRIMMING A HOLLY HEDGE (*Inquirer*).—Prune your Holly forthwith. The present time is a suitable one for making a rockery.

PAMPAS GRASS NOT FLOWERING (*A. E. A.*).—A cold and wet situation is unsuitable for Pampas Grass. During the last four or five years we have planted it experimentally upon elevated exposed situations, in nooks and corners of shrubberies, upon the upper slopes of a valley with perfect success, the plants growing strongly and bearing a profusion of spikes annually, some of them at the present time being fully 10 feet high; but upon the lower slopes and in the bottom of the valley, as well as by the margin of a pond, the plants, like yours, grow well but have few spikes. It is therefore

obvious that an elevated well drained position is necessary for it. We intend trying the effect of putting some of those in the valley upon mounds raised some 2 or 3 feet above the common level, and would advise you to give the plan a trial, but by no means destroy any of the leafage as you propose.

BLACK HAMBURG GRAPE (*T. F. H.*).—We think the specimen good and full flavoured. Ventilate freely and have little moisture in the air.

STRAWBERRY PLANTING (*A. Dumbell*).—The best way to plant them is in rows, allowing a distance of 2 feet between each plant. *Adiantum palmatum* was sent out in the spring of the present year. It can now be obtained from any nurseryman at a reasonable price.

MANAGEMENT OF A GRAPE VINE (*W. E. B.*).—It has grown strong enough to bear fruit next year, and the best time to prune it is when the leaves fall off. Cut the young wood back to within 3 feet of the base of the rafters. Dress the border after you have pruned the Vines. Sow the Mustard and Cress thickly, and you will have no difficulty in racking it in a neat manner. Wash it before using, but it is not washed before it is placed into baskets for sale. What you see in Covent Garden is not raised from Mustard seed but from Rape.

WINTER TREATMENT OF VINES (*M. A. M.*).—Prune the Vines when the leaves fall, wash and dress the rods immediately after, then tie them neatly in a horizontal position along the front of the house. It is not necessary to do this, but the canes are more out of the way when thus tied down.

CLIMBERS FOR SOUTH FRONT OF A DWELLING HOUSE (*H. I.*).—You have already named a good selection. Try Tea Rose *Maréchal Niel*, and *Rosa bracteata* (Single White Macarney). *Magnolia grandiflora* (Exmouth variety) has a noble effect in such a position. An Apple orchard may succeed in the position you name.

PLUMS FOR MARKET (*C. S.*).—Rivers' Early Prolific, Victoria, and Gisborne's. You might give Mitchellson's and Prince of Wales a trial. The best two Strawberries are British Queen and Sir Charles Napier. The largest-fruited Strawberry is Cockscomb.

LARVE OF INSECT (*G. H. B.*).—We do not recognise it, but the best way to get rid of such pests is by hand-picking.

WIRING GARDEN WALLS FOR FRUIT TREES (*B. K. L.*).—The wires should be 9 inches apart, the eyes should be about 4 feet apart, or if the wire is very stout 6 feet. The distance apart for the trees should be from 15 to 24 feet. The higher the wall the further the trees should be apart. Do not use any manure round the roots at planting. The ground should be moderately rich, and some maiden loam should be placed in immediate contact with the roots.

COMPOST FOR AND WIDTH OF VINE BORDER (*G. S.*).—The depth of soil should be 3 feet. The width for the first planting may be 6 feet outside and as much inside. The border should be made the whole length of the house.

TREATMENT OF VINES IN POTS (*A. Duncan*).—The most prominent and largest eyes are always those nearest the top. About 6 feet of cane is a good length to allow for fruiting. Cut the planting canes back to about 2 feet, and when they start into growth rub off all the eyes except those nearest the ground, and train up the number of young rods you require. If you only want one rod select the best, and take care of that; but it is as well to train two, as an accident may happen to the first.

ROMAN HYACINTHS NOT DOING WELL (*W. L.*).—The treatment you gave them is quite right. We advise you to place them now in gentle heat; they may do better than you suppose. Probably by this time the rest of the bulbs have formed roots. It is no use trying to force them until roots are formed. A gummy substance does exude from the crown of these bulbs.

HARDY CYPRIPEDEUMS (*Idem*).—It is a mistake to keep them quite dry in winter. This would account for the crown becoming soft. They do well with us, and we give enough water to cause moss to remain green on the surface of the pots. They are placed in a shady part of the greenhouse.

CARNATIONS (*England*).—We cannot recommend any florist. Refer to our advertising columns.

HEATING GREENHOUSE (*Dilemma*).—We do not approve of the plan. The best way is to have a supply cistern and have a small air pipe at the highest point of the pipes, which is usually that farthest removed from the boiler. We object to fixing the pipe in the side of a saddle boiler as on your plan. The pipe ought to be close to the boiler, but it should be fixed in the return pipe.

DEFINITION OF A NEW ROSE (*Midland Counties*).—A new Rose is one of recent introduction; but if a class is made for them at Rose shows it is usual to say "New sorts introduced in 1875-6," or three years may be given to select from instead of two, but always naming the year before that in which the schedule was printed. If you want to purchase the best Roses of recent introduction we advise you to apply to some of the principal Rose-growers. Say how many you want and leave the selection to them.

SUPPORTS FOR ROSE TREES (*M. E. D.*).—Iron stakes, whether painted or galvanised, are not injurious. Those galvanised are to be preferred.

NEW ROSES.—At page 362, column 1, *Capitaine Christy* should be stated to be a cross between *La France* and *Baronne de Rothschild*. In the notice of *Duchesse de Vallombrosa* the Rose referred to should also be *Baronne de Rothschild*.

GORSE (*S. B.*).—There is no separate work on its uses, but there is a lengthy detail in the "Farmers' Encyclopedia." Apply to Messrs. Sutton or to Messrs. Carter for grass seeds suitable to your sandy soil.

"FERN WORLD."—Mr. Heath informs us that the misplacement of the plates we noticed does not occur in other copies.

ADIANTUM FARLEYENSE.—Mrs. G. Hodder, Spring Well, Clapham Common, has sent us a frond having spores. We have frequently seen spores on this Fern, but have not known any plants come true when raised from them.

NAME OF SHRUB (*C. B. E.*).—It seems to be a species of *Prunus*, but we cannot name it from a single spray with leaves only.

SEA-WEED AS A MANURE (*J. L.*).—Spread it over the ground and dig it in whilst fresh before planting the intended crop.

NAMES OF FRUITS (*W. Jacob*).—Figue de Naples. (*E. T.*).—The Apples are all good varieties. The green one is *Gloria Mundi*. It was raised in America. Though not high-flavoured it is a very good culinary Apple. The full bearing will depend upon the trees rooting freely and being properly cultivated. (*F. H., Enfield*).—2, Hawthornden; 3, Stirling Castle; 4, Court Pendu Plat; 5, Court of Wick. (*H. G.*).—1, Tower of Glamis; 2, Winter Hawthornden; 3, Red Doyenne. (*H. E. Monk*).—1, Ross Nonpareil; 2, Cornish Gilliflower; 3, Surrey Flat Cap; 4, Adams' Pearmain; 5, Autumn Bergamot; 6, Winter Greening.

NAMES OF PLANTS (S. L.).—*Physalis edulis*, Cape Gooseberry. It requires to be preserved from frost, but should be in the open border during the summer. (G. W. W.).—It seems to be *Chrysanthemum leucanthemum*, but the small bit was crushed. You may cut off the Orange and Lemon trees now. (O. F. J.).—We think it is *Lycopodium cespitosum*, but the specimen is bad.

POULTRY, BEE, AND PIGEON CHRONICLE.

CRYSTAL PALACE POULTRY SHOW.

ONCE more the great poultry contest has come round. Other shows have their ups and downs, but the old-established ones, and especially the Palace, continue to be annual successes. Even the conflict of shows which has this year taken place in and near the metropolis, to the detriment alike of birds and of the fancy, has not affected the entries at the Palace. They are upwards of four thousand, and their quality seems yearly to increase with the number. Some slight alterations there are in the arrangement of pens, and the numbers begin on the reverse side of the building to that on which they have of later years, but as a whole all looks the same as in former years. Most of the same well-known faces are to be seen, and one could fancy one had been asleep since some former November, and on waking had found all in its old position.

Dorkings, as always, head the list. Old dark cocks only number eight. First is a moderately dark bird, square and good in shape, but indifferent in comb; second a large bird but not remarkable; third we thought long on the legs and white in lobes. The hens are a large and better class. First-and-cup is a magnificent bird, one of the finest we have ever seen, rich and good in colour; second a long and large bird too, of the old-fashioned lighter colour; third nice in colour and fair in size, but has a swollen foot. Mr. Parlett's very highly commended hen looks like the winner of last year. The cockerels are a large and good class. Mr. Beachey's champion is a wonderful young bird, dark in colour and immense in frame. We do not care to see so much white in tail and ear, and one of his centre toes is curved; second is a bird of the same type, and rather shorter in legs; third apparently a young bird. We liked his good white feet, though not his white lobes. Fourth a sprightly well-shaped bird with a good comb; fifth a lumpy short-legged bird. Among the very highly commended Mr. Burnell has a fine bird, Mr. Peel one of thorough Dorking shape, and Mr. Cresswell one with good dark colour and really white feet. The pullets are not at all equal to the cockerels in merit. The cup pullet is a very large Dark bird, but her fifth claws are not well put on; second a very fair Dark bird; third large but sooty in feet. This sootiness seems a disfigurement much on the increase, and is worse in pullets than cockerels. Fourth large in frame, but not good in feet; fifth a bird promising to grow much. Silver-Greys are above the average, but we must confess that the judging sorely puzzled us, and in some cases the very worst birds seemed to win. The cup cock is a grand bird and deserved his position. He is evidently the cockerel shown by Mr. Cresswell last year and claimed at Birmingham. Second has much white in his breast and one centre toe cut short; third very small and yellow, and about the worst in the class. We cannot say much for the first hen; she contrasts very unfavourably with Mr. Burnell's very highly commended bird next to her, a magnificent hen, worthy of a cup; second a fair bird with a bad comb; third a nice hen. In cockerels the cup goes to a now well known bird which we need not describe; second is a good bird all round, but not striking; third a small, neat, silvery bird. In pullets the first winner is as well known as her brother; second a square bird; third a very young pullet, promising to be immense. Cuckoos are still shown in pairs. They do not progress in number or quality. The first pair are well marked and well shaped; second are large but longer on leg, and the cock is bad in comb; third are a pretty pair, very dark. Whites are progressing much. First-and-cup is a grand cockerel, good in comb and shape; second the Oxford cup-winner, as white as ever but minus his sickles, or he must have been first again; third a promising but slightly coarse bird. In hens the winner is enormous, though we do not admire her so much as her owner's third-prize bird, the cup hen of various former years; second a fine-framed hen barely through the moult.

[The remainder of our report was not received when going to press.]

POULTRY.

DORKINGS.—Coloured.—Cock.—1, Rev. E. Bartrum. 2, R. Gladstone. 3, T. Breden. Hen.—Cup and *chc*, F. Parlett. 2 and 4, T. C. Burnell. 3, Dr. E. Snell. Cockerel.—Cup and 2, R. W. Beachey. 3, H. Brown. 4 and 5, Henry Lingwood. *chc*, Rev. H. R. Peel. Mrs. T. W. L. Hind. T. C. Burnell. L. Pilkington (2). T. Breden. O. E. Cresswell. P. Ogilvie. Pullet.—Cup, E. Barker. 2, T. C. Burnell. 3 and 5, T. Breden. 4, Henry Lingwood. *chc*, J. A. & M. F. Smyth. T. C. Burnell. Mrs. J. Mills. Silver-Grey.—Cock.—Cup, T. C. Burnell. 2, J. Boulding. 3, C. Atkinson. *chc*, O. E. Cresswell. Hen.—1, Miss Pasley. 2, W. W. Rutledge. 3, T. C. Burnell. *chc*, Miss Pasley. Cockerel.—Cup, R. A. Boissier. 2, Miss Pasley. 3, W. Roe, jun. *chc*, T. C. Burnell. Pullet.—1, R. A. Boissier. 2 and *chc*, T. C. Burnell. 3, O. E. Cresswell. Blue or Cuckoo.—1, Countess of Aylesford. 2, W. Virgo & Son. 3, H. H. Young. White.—Cock.—Cup and 3, Mrs. M. A. Hayne. 2, O. E. Cresswell. Hen.—1 and 3, O. E. Cresswell. 2, Mrs. M. A.

Hayne. *chc*, J. E. Pilgrim. Countess of Dartmouth. Any variety.—1, P. Ogilvie. 2, F. Parlett. 3, Lord Tournour. 4, Mrs. J. L. Logan.

COCHINS.—Cinnamon or Buff.—Cock.—Cup, J. O. Rigg. 2, G. H. Procter. 3, H. Tomlinson. *chc*, Mrs. A. Tindal. Hen.—1, W. A. Burnell. 2, G. H. Procter. 3, H. Tomlinson. 4, R. P. Percival. *chc*, Mrs. A. Christy. Mrs. W. Steven. Capt. T. S. Robin. A. E. W. Darby (2). Cockerel.—Cup and 3, Mrs. T. Pye. 2, Mrs. A. Tindal. 4, C. Sidgwick. Pullet.—1, G. H. Procter. 2, Mrs. A. Christy. 3, W. A. Burnell. 4, R. P. Percival. *chc*, Mrs. A. Tindal. Partridge.—Cock.—1, R. P. Percival. 2, Lady Gwydyr. 3, W. A. Burnell. *chc*, R. J. Wood. Hen.—Cup, R. J. Wood. 2, J. N. C. Pope. 3, R. P. Percival. *chc*, Mrs. A. Tindal. Cockerel.—1 and 3, R. J. Wood. 2, J. Wood. *chc*, Mrs. A. Tindal. Pullet.—1, Mrs. A. Tindal. 2, J. K. & R. R. Fowler. 3, R. J. Wood. *chc*, Mrs. Gordon. T. Sutch. A. Beaumont. White.—Cock.—1, Rev. G. Watson. 2, R. P. Percival. 3, A. E. W. Darby. *chc*, Rev. G. Watson. Mrs. A. Tindal. Hen.—Cup, A. E. W. Darby. 2, Master A. D. Nightingale. 3, R. P. Percival. *chc*, F. H. Chase. E. A. Bosier. Cockerel.—1, Mrs. A. Tindal. 2, J. K. & R. R. Fowler. 3, G. B. C. Breeze. Pullet.—1, J. Buckmaster. 2, G. B. C. Breeze. 3, Mrs. A. Tindal. Black.—1 and 3, Lady Gwydyr. 2, T. Aspden. Cockerel.—1, J. Turner. 2, H. J. Storer. 3, Lady Gwydyr. *chc*, G. Fortey. Pullet.—1, A. E. W. Darby. 2 and 3, E. Kendrick, jun. Any variety.—1, A. E. W. Darby. 2, Mrs. Lang. 3, G. Dowker. 4, Mrs. J. T. Holmes. *chc*, Rev. G. Watson. Mrs. A. Tindal.

LANGSHANS.—Cup, W. Howard. 2, E. Skelton. 3, F. R. Nunn. *chc*, R. Hargreaves. 4, Rev. G. W. Joyce. *chc*, F. Bennett. Hen.—1, E. Pritchard. 2, Miss E. Shuter. 3, H. Wilkinson. 4, Capt. Rice. *chc*, R. P. Percival. R. Shield. Cockerel.—Cup and 5, Horace Lingwood. 2, Dr. Earle. 3, L. C. C. R. Norris. 4, Mrs. A. Tindal. 6, Miss E. Shuter. Pullet.—Cup, 5, and 6, R. P. Percival. 2, G. S. Pearson. 3, F. Bennett. 4, L. C. C. R. Norris. Cockerel and Hen.—1, F. Bennett. 2, R. P. Percival. 3, J. Swan. 4, L. C. C. R. Norris. 5, R. H. Buckton. Dark Mottled.—Cock.—1, R. P. Percival. 2, R. Garner. 3, J. Gilbert. 3, Horace Lingwood. 4, J. Holmes. Brahmans.—Light.—Cock.—1, H. C. White. 2, R. P. Percival. 3, C. Morris. 4, T. A. Dean. Hen.—Cup, H. C. White. 2 and 4, M. Hall. 3, Dr. G. A. Angier. Cockerel.—Cup and 5, G. B. C. Breeze. 2 and 3, P. Haines. 4, Horace Lingwood. 6, J. Virgo. 7, G. W. Petter. Pullet.—Cup and 4, G. W. Petter. 2 and 5, C. M. Stidings. 3, Mrs. J. T. Holmes. 6, W. Wells. 7, Dr. G. A. Angier. Cockerel and Hen.—1, and 2, G. W. Petter. 3, T. A. Dean. 4, R. P. Percival. 5, J. K. & R. R. Fowler. *chc*, J. T. Holmes. Cuckoo.—Cup, E. Jones. 2, W. R. Bull. 3, D. M. Mills. Hen.—1, A. Critchett. 2, G. Thomas. 3, J. T. Parker. Cockerel.—1, J. Powell. 2, J. Woods. 3, J. Hunt. *chc*, J. Yates. E. Jones. Pullet.—1, J. Thresh. 2, J. Woods. 3, Mrs. Allsopp.

HOUDANS.—Cock.—1, J. E. Clayton. 2, Pearce & Lake. 3, W. H. Copplestone. *chc*, Mrs. Vallance. Hen.—1, S. W. Thomas. 2, J. Graham. 3, A. Ordan. *chc*, Mrs. Vallance. Cockerel.—1, J. M. Vallance. 2, C. Nay. 3, W. R. Daniel. 4, W. O. Quibell.

CREVE-CEURS.—Cock.—Cup, J. Ward. 2, E. Burnell. 3, W. R. Park. *chc*, M. Hall. Hen.—1 and 3, Ward. 2, W. R. Park. *chc*, G. W. Hibbert. Cockerel.—1, W. R. Park. 2, Duchess of Hamilton. 3, E. Burrell. Pullet.—1, A. W. Darley. 2, W. R. Park. 3, E. Burrell.

HAMBURGHS.—Golden-spangled.—Cock.—1, J. Jackson. 2, C. May. 3, H. Belden. Hen.—1, T. Blakemore. 2, J. Jackson. 3, H. Feast. Silver-spangled.—Cock.—1, W. R. Park. 2, H. Belden. 3, Ashton & Booth. Hen.—Cup, Robinson & Jagger. 2, J. Fielding. 3, Ashton & Booth. Golden-penciled.—Cock.—Cup, Miss D. Mackenzie. 2, T. P. Carver. 3, W. K. Tickner. *chc*, J. Long (3). Hen.—1, H. Feast. 2, W. Clayton. 3, J. Stutter. Silver-penciled.—Cock.—1, J. Webster. 2, Robinson & Jagger. 3, W. L. Bell. Hen.—1, J. Webster. 3, F. C. Davis. 3, H. Belden. Black.—Cock.—1, N. Marlor. 2, O. Sidgwick. 3, J. Long. *chc*, Robinson & Jagger. Hen.—1, N. Marlor. 2, R. L. Garnett. 3, H.

GAME.—Black Red.—Cock.—1, S. Matthew. 2, T. P. Lyon. 3, Hon. and Rev. F. Dutton. Cockerel.—Cup, S. Matthew. 2, S. Matthew. 3, Hon. and Rev. F. Dutton. Hen or Pullet.—1, T. P. Lyon. 2, S. and 4, W. J. Pope. Brown Red.—Cock.—Cup, W. A. F. Fenwick. 2, T. Mason. 3, N. Wright. *chc*, E. Varde. Cockerel.—1 and *chc*, H. E. Martin. 3, S. Matthew. 3, R. L. Garnett. Hen or Pullet.—1, T. Mason. 2, W. A. F. Fenwick. 3, R. L. Garnett. *chc*, J. Varde. *chc*, T. A. Mather. 2, S. Matthew. 3, W. C. Phillips. Cockerel.—1, S. Matthew. 2, H. E. Martin. 3, Hon. and Rev. F. Dutton. Hen or Pullet.—1, F. Sales. 2, T. P. Lyon. 3, J. A. & H. H. Staveley. Any other variety.—Cock or Cockerel.—Cup, J. Cock. 2, R. Walker. 3, T. P. Lyon. Hen or Pullet.—1, and 2, W. Adams. 2, J. Colgrove. 3, R. Walker. Cuckoo and Hen.—1, J. Colgrove. 2, J. A. & H. H. Staveley. Cuckoo and Hen.—1, W. A. Fenwick. 2, J. A. & H. H. Staveley. Cuckoo and Hen.—1, J. Hinton. 3, T. B. Lowe. Hen.—1, T. Joint. 2, J. Copp. 3, E. B. Grimmer.

POLISH.—Golden-spangled.—Cock.—1, H. Belden. 2, H. E. Broad. 3, J. Studdard. Hen.—1, P. Unsworth. 2, H. E. Broad. 3, Rev. C. W. Shepherd. *chc*, A. & W. H. Silvester. J. J. Scott. G. W. Boothby. H. A. Clark. Silver-spangled.—Cock.—1, G. C. Atkins. 2 and 3, C. Bloodworth. Hen.—Cup, H. Belden. 2, G. C. Atkins. 3, Miss F. Gallway. Black and any other variety.—Cock.—1, H. Belden. 2, W. A. Fenwick. 3, J. Fearnley. Hen.—1, T. Norwood. 2, A. E. W. Darby. 3, P. Unsworth.

LEGHORN.—Brown.—Cock.—1 and Cup, J. K. & R. R. Fowler. 2, Bradbury Brothers. 3, H. S. Hill. Hen.—1, A. Kitchen. 2, W. Philcox. 3, T. H. May. White.—Cock.—1 and Cup, Mrs. Troughton. 2, A. Kitchen. 3, J. Fielding. *chc*, J. K. & R. R. Fowler. Hen.—1, E. Midgley. 2, J. Fielding. 3, G. Mumford.

ANDALUSIANS.—Cock.—Cup, Mrs. F. Cheshire. 2, J. Wiggings. 3, A. Stevens. Hen.—1 and 3, W. Willey. 2, J. H. Fry.

ANY OTHER DISTINCT VARIETY.—1, H. Stevens. 2, C. Atkinson. 3, T. B. Lowe.

SELLING CLASS.—Dorkings, Brahmans, Cochins, Cocks or Cockerel.—1, P. Ogilvie. 2, J. Buckmaster. 3, H. Brown. 4, J. Everett. 5, G. W. Henshall. Hens or Pullets.—1, Rev. T. C. Peake. 2, C. Thompson. 3, E. Pritchard. 4, M. Leno. 5, S. Lucas. Cocks and Hen or Cockerel and Pullet.—1, W. R. Garner. 2, C. Sidgwick. 3, A. E. W. Darby. 4, S. Lucas. 5, Mrs. A. Tindal.

SELLING CLASS.—Houdans, Creves, or La Fliche.—Cock or Cockerel.—1, J. K. and R. R. Fowler. 2, C. Morris. 3, H. Stephens. 4, J. E. Pilgrim. *chc*, Mrs. E. Cross. Hens or Pullets.—1 and 3, W. Cutlack, jun. 2, C. Morris. 4, J. E. Pilgrim. *chc*, H. Stephens. Robinson & Myers.

SELLING CLASS.—Any other variety except Bantams.—Cock or Cockerel.—1, R. Newbitt. 2, R. W. Warner. 3, A. & W. H. Silvester. 4, M. W. L. Brown. 5, J. Woods. *chc*, T. P. Lyon. R. L. Garnett. Mrs. E. Bosier. J. T. Chesters. C. Bloodworth. Hens or Pullets.—1, W. Perrin. 2, C. Bloodworth. 3, A. G. Avenell. 4, B. A. Hogg. 5, L. Peek. *chc*, R. L. Garnett. A. E. W. Darby. Cocks and Hen or Cockerel and Pullet.—1, Rev. N. J. Ridley. 2, R. L. Garnett. 3, A. & W. H. Silvester. 4, Mrs. Hubbard. 5, H. H. Thompson. *chc*, G. Bywater.

GAME BANTAMS.—Black Red.—Cock.—Cup, W. Adams. 2, G. Garrod. 4, A. S. Sugen. 5, W. F. Addie. Hen.—1, W. F. Addie. 2, W. F. Entwistle. 3, T. H. S. Capt. Withersall. Brown Red.—Cock.—1 and 2, W. F. Entwistle. 3, T. H. S. Capt. Withersall. Cup, S. Beighton. 2, W. F. Entwistle. 3, W. S. Marsh. Duckwing.—Cock.—1 and 2, S. Beighton. 3, W. F. Entwistle. *chc*, R. Newbitt. Hen.—1, J. A. Nelson. 2, W. Adams. 3, A. S. Sugen. Pile.—Cock.—Cup and 2, R. Brownlie. 3, T. W. Aans. Any other variety.—Hen.—1, Maitland & Evans. 2, R. Brownlie. 3, W. F. Entwistle.

BANTAMS.—Black.—Cup, W. H. Shackleton. 2, R. H. Ashton. 3, F. Bealand. *chc*, T. F. Phelps. Silver.—Cup, W. H. Shackleton. 2, W. Adams. 3, J. Long. 3, C. Naylor. *chc*, T. F. Phelps. Hardwick.—2, Rev. F. Tearle. 3, M. Leno. Any other distinct variety.—1, Mrs. Brassey. 2, T. F. Phelps. 3, S. C. Davis. *chc*, J. W. Crowther.

SELLING CLASS.—Bantams.—1, N. Wright. 2, Hon. Mrs. A. Baillie Hamilton. 3, J. Harrison. 4, G. Vigers.

Mealy, Self.—1, W. Ashley. 2, E. Orme. 3, A. Curtis. *vhc.* Joseph Bexson. **Mealy, Marked or Variegated.**—1, E. Orme. 2, A. Curtis. 3, R. Whitaker. *vhc.* Joseph Bexson. **Lizard.**—*Golden-spangled, Clear Cap.*—1, S. Bunting. 2, E. Orme. 3, W. Ashley. *vhc.* R. Whitaker. **Silver-spangled, Clear Cap.—1, S. Bunting. 2, W. Ashley. 3, E. Orme. **Golden-spangled, Broken Cap.—1, R. Whitaker. 2, S. Bunting. 3, W. Ashley. **Silver-spangled, Broken Cap.—1, S. Bunting. 2, R. Whitaker. 3, W. Ashley. **Goldfinch Mule.**—*Jonque, Marked or Variegated.*—1, S. Bunting. **Mealy, Marked or Variegated.**—1, A. Curtis. 2, J. Bryan. 3, F. Woodward. **Jonque, Dark.**—1, W. Woodward. 2, A. Curtis. 3, S. Bunting. *vhc.* W. Woodward. **Mule.**—*Any other variety, Crested Goldfinch Mule included.*—1, E. Ward. 2, Joseph Bexson. 3, S. Bunting. *vhc.* A. Curtis.******

JUDGES.—*Poultry and Pigeons:* Mr. G. A. Crewe, Etwell, and Mr. E. Hutton, Padsey. *Canaries:* Mr. J. Athersuch, Coventry.

CIRENCESTER POULTRY SHOW.

THIS Exhibition was held in the Corn Hall, under very distinguished patronage. The entries in the poultry and Pigeon classes amounted to 678. Most of the classes were well filled. The Judges were Messrs. Hewitt and Nicholls for the poultry, and Mr. Jones for the Pigeons. The £55s. cup for the best pen in the Show fell to Mr. E. Burrell's pen of Crêves, and the same exhibitor won with his Buff Cochins the cup for third best pen of poultry in the Show, while the £33s. cup was awarded to Mr. C. Bloodworth's pen of Silver Polands. The silver medal for the best pen of Waterfowl was won by Mr. Hedge's Aylesbury Ducks, and the cup for best Pigeon in the Show, exclusive of Magpies, went to Mr. Herrieff's Pouter, a Black Magpie of Mr. S. Salter winning the Magpies' £33s. piece of plate.

Dorkings were fifteen pens in number, and a moderate pen of Darks won first prize. Light *Brahmas* had seventeen entries, and the quality was on the whole fairly good. The Darks did not muster nearly so well. We believe last year they were as weak in numbers. The winning pens were, however, good, and did not give the Judge much trouble to choose them. In *Cochins* Bufts made thirteen pens, and the first winners were a pretty pair of Buff chickens; the second and third were also chickens of the year. In the next class very good adult Whites came in first among eleven pens. Whites, again, were third, and Partridges and Whites of Messrs. Clatworthy and Buckmaster were highly commended. In *Spanish* a pretty pair of chickens were first, and the class of nine pens was fairly good. The *Leghorns* made two fairly good classes, the winning White chickens being well shown and very smart in carriage. *Game* had three classes, and the quality was good. The first Black Reds very smart in carriage, and in fine feather. Mr. Warde's birds, too, were well shown, and in good condition. *Hamburgs* also had three classes, and all were filled well. The Pencilled made the largest display. The first in Spangles went to good Gold, and the winning Blacks were fresh-looking and bright. The *Malays* were excellent, and the first-prize pen were in good condition and large. All the *French* met in one large class, where Crêves of wonderfully good quality were first. Crêves, too, were again second, and good *Hondans* third. *Polands* were an extraordinarily good class, and every pen was noticed. Superb Silvers were first. They were in good feather, and should do well at shows to come. The second were cheap at £44s.; and third again were very good Silvers. Messrs. Norwood's, Unsworth's, and Burrell's were all good pens. The Variety class had eight entries, of which a pair of Langshans were commended. We fancy that a Judge in noticing this breed in a variety class makes himself a believer in the breed, for did he only consider them inferior Black Cochins, they should have been passed over for being in the wrong class. We commend this to the notice of the Judges. The winning Black Red Bantams were good, as was the pen of Piles which won in the next class. In the variety Bantam class *Laed* were first and second, and Blacks third. The *Waterfowl* were good classes, though the Aylesbury, as has been the case of late, were a very small class, while the variety Duck class was extremely meritorious, and each pen won a card at the hands of the Judge.

POULTRY.—DORKINGS.—1, Miss M. Boote. 2, J. Paxton. 3, F. P. Bulley. **BRAHMAS.**—*Light.*—1, T. A. Dean. 2, J. Turner. 3, T. Smith. *Dark.*—1, E. Pritchard. 2, H. Lingwood. 3, J. S. Tainton. **COCHINS.**—*Cinnamon and Buff.*—1 and Cup, E. Burrell. 2, W. Paxton. 3, Rev. H. J. Borrow. *Any other variety.*—1, J. Turner. 2, E. Pennohal. 3, Miss H. Williams. **SPANGLES.**—1, H. Blower. 2, J. Newick. 3, J. Aldridge. **LEGHORNS.**—*Brown.*—1, T. Reeves. 2, E. S. Hill. 3, Messrs. Bradbury. *White.*—1, R. Waugh. 2, A. Kitchin. 3, Messrs. Bradbury. **GAME.**—*Black-breasted.*—1, Hon. and Rev. F. G. Dutton. 2, W. T. Garne. 3, T. D. B. Rawlins. *Brown-breasted.*—1, F. Warde. 2, J. Cock. 3, T. Mason. *Any other variety.*—1, F. Warde. 2, E. Vinwood. 3, Miss M. Boote. *vhc.* F. Edwards. **HAMBURGS.**—*Spangled.*—1, T. Blakeman. 2, J. Carr. 3, F. Edwards. *vhc.* J. Jackson. *Gold.*—1, R. Pickles. 2, J. Carr. 3, J. Newick. *vhc.* D. W. Thomas. *Pencilled.*—1, R. Pickles. 2, E. S. Hill. 3, C. A. Jessup. *vhc.* C. Sedgewick. **MALAYS.**—1, J. Hinton. 2, T. E. Lowe. 3, E. G. Greenhill. **FRENCH.**—*Cup.* E. Burrell. 2, W. Wilkins. 3, W. H. Copplestone. **POLANDS.**—*Cup.* C. Bloodworth. 2, J. Bloodworth. 3, J. Hinton. *vhc.* T. Norwood. **P. UNSWORTH.**—1, H. Feast. 2, O. E. Cresswell. 3, E. Snell. **BANTAMS.**—*Black Red Game.*—1, W. Jones. 2, W. Shenton. 3, F. C. Davis. *Any other variety.*—1, H. Feast. 2, T. W. Anns. 3, J. E. C. Castle. *vhc.* D. W. Thomas. *Any other variety.*—1 and Cup, 1, M. H. Sturt. 2, J. Bloodworth. 3, C. Bloodworth. **WATERFOWL.**—1, J. Hedges. 2, Messrs. Printer. 3, G. Hanks. 4, W. H. Copplestone. **DUCKS.**—*Rouens.*—*Young.*—1, E. Snell. 2, P. Ogilvie. 3, Mrs. Kettlewell. *vhc.* F. P. Bulley. *Any other variety.*—1, J. Hedges. 2, T. P. Stevens. 3, E. Snell. *vhc.* J. C. Fraser. *Any other variety.*—1, H. Yardley. 2, W. J. C. E. Printer. 3, M. Leno. *vhc.* Miss Sterling, M. Leno. **GEES.**—1, E. Snell. 2,

W. J. & C. E. Printer. 3, H. C. Organ. **TURKEYS.**—*Young.*—1, F. Warde. 2, J. N. Ridley. 3, W. Slatter. **LOCAL CLASSES.—Dorkings, Cochins, and Brahmas.**—1, F. P. Bulley. 2, J. Lumb. 3, Lady Goldsmid. *Any other variety.*—1, C. E. Clark. 2, D. Smith. 3, H. Chapman. 4, E. F. Woodman. **DUCKS.**—1, R. Daubeney. 2, Rev. G. F. E. Shaw. 3, Miss C. Fawcett. 4, D. Blackford. **PIGEONS.—CARRIERS.**—1, P. R. Spencer. 2, J. Chandler. 3, W. D. Richardson. **POUTERS.**—*Cup.* J. Heriuff. 2, P. R. Spencer. 3, G. Packham. **DRAGONS.**—*Blue or Silver.*—1, W. B. Tegginch. 2, R. Woods. 3, A. Mackenzie. *vhc.* W. B. Tegginch. **ANY OTHER COLOUR.**—1, A. Simms. 2, McKenna. 3, C. Skinner. **Blue.**—*Young.*—1 and 8, R. Woods. 2, J. Lush. **TUMBLERS.**—1, H. Yardley. 2, J. Chandler. 3, F. C. Davis. **BARS.**—1 and 8, E. Beekwith. 2, W. D. Richardson. **ANTWERPS.**—*Short-faced.*—1, H. Yardley. 2, T. S. Kemp. 3, F. C. Harvey. **HOMING.**—1, W. E. Tegginch. 2, A. Munday. 3, F. Winsor. **FANTAILS.**—1, P. R. Spencer. 2, J. F. Loversidge. 3, H. Yardley. **MAGPIES.**—*Black.*—*Cup.* S. Salter. 3, A. P. Maric. 3, F. P. Bulley. 3, W. Chandler. *Any other colour.*—1, S. Salter. 3, F. P. Bulley. *vhc.* F. P. Bulley. **JACOBINS.**—*Red or Yellow.*—1 and 8, S. Salter. 2, W. Dawson. *Any other variety.*—1 and 2, S. Salter. 3, J. James. **OWLS.**—1 and 2, S. Salter. 3, G. H. Gregory. **TURBITS.**—1, G. Webster. 2, C. Skinner. 3, S. Salter. *vhc.* J. Chandler. **RUNTS.**—1 and 2, H. Yardley. **ANY OTHER VARIETY.**—1, P. R. Spencer. 2, H. Yardley. 3, F. P. Bulley. **SELLING CLASS.**—1, A. Beadon. 2, W. Tomlins. 3, F. P. Bulley. **LOCAL CLASS.**—1, E. F. Woodman. 2 and 3, W. P. Mathews. Equal 3, F. P. Bulley.

RABBITS.—LOPS.—*Self-colour.*—*Cup.* J. Cranch. 2, C. E. Thompson. 3, C. King. *Broken.*—1 and 2, C. King. 3, H. Ball. *vhc.* C. E. Thompson. **HIMA LAYAN.**—1 and 2, G. W. Greenhill. 3, C. Pink. **SILVER-GREY.**—1, E. Pepper. 2, F. J. Munn. 3, J. Smith. **DUTCH.**—1, J. Foster. 2, T. Pope. 3, W. E. Clark. **ANY OTHER VARIETY.**—1, R. A. Boissier. 2, C. O. Howard. 3, P. Ogilvie. **LOCAL CLASS.**—1 and 3, A. M. Murphy. 2, T. Alexander.

WESTMINSTER AQUARIUM BIRD SHOW.

THIS was held on November 6th, 7th, and 8th, when the following awards were made by the Judges:—

CANARIES.—*Norwich.*—*Clear Yellow.*—1 and 3, C. J. Salt. 2, Mackley Bros. *vhc.* Mackley Bros. E. Arnold. *Clear Buff.*—1, 2, and 3, C. J. Salt. *vhc.* Mackley Bros. (2). *Marked or Variegated Yellow.*—1 and 3, Mackley Bros. 2, C. J. Salt. *vhc.* Mackley Bros. C. J. Salt. *Marked or Variegated Buff.*—1, 2, and 3, Mackley Bros. *vhc.* C. J. Salt. *Ticked or Unevenly-marked Yellow.*—1 and 2, C. J. Salt. 3, Mackley Bros. *vhc.* Mackley Bros. C. J. Salt. *Ticked or Unevenly-marked Buff.*—1, 2, and 3, Extra, C. J. Salt. *vhc.* J. Yallop. J. Gaylis. *Any other variety.*—1, C. J. Salt. 2, J. Yallop. *vhc.* C. J. Salt. 3, J. Yallop. **CLIMBSON & HAMPTON.** *Evenly-marked Crested Buff.*—1, Climbison & Hampton. 2 and 3, C. J. Salt. *vhc.* J. Yallop. *Ticked or Unevenly-marked Crested Yellow.*—1, 3, and *vhc.* Mackley Bros. 2, C. J. Salt. *Ticked or Unevenly-marked Crested Buff.*—1 and *vhc.* C. J. Salt. 2, S. Stratford. 3, Mackley Bros. *Clear, Grey, or Dark Crest, irrespective of colour.*—1, 2, and Extra, C. J. Salt. 3, J. Yallop. *vhc.* C. J. Salt. **MISS S. H. NORTHCOTE.** **LIZARD.**—*Golden-spangled.*—1, 2, and 3, C. J. Salt. 3, Stevens & Tennisswood. *vhc.* T. W. Fairbrass. R. Ritchie. *Silver-spangled.*—1, 2, and 3, C. J. Salt. 3, Stevens & Tennisswood. *vhc.* R. Ritchie. *Silver-spangled with Broken Caps.*—1, 2, and Cup, R. Ritchie. 3, Stevens & Tennisswood. **BELGIAN.**—*Clear and Ticked Yellow.*—1, Rev. H. F. Hamilton. 2 and 3, Mrs. M. E. Shelley. *vhc.* T. E. Jeffes. **Messrs. Mackley (2).** *Clear and Ticked Buff.*—1, Rev. H. F. Hamilton. 2, T. E. Jeffes. 3, Stevens & Tennisswood. **LONDON FANCY.** *Jonque.*—1, J. Waller. 2, J. Waller. 3, M. Wilson. **Meady.**—1, J. Price. 2, J. Waller. 3, J. M. Wilson. **YORKSHIRE.**—*Clear, irrespective of colour.*—1, 2, and 3, Mackley Bros. *vhc.* L. Belk. J. Wilkinson. Stevens and Tennisswood. J. Spence. Mackley Bros. *Marked or Variegated, irrespective of colour.*—1, Stevens & Tennisswood. 2, L. Belk. 3, J. Wilkinson. *vhc.* J. Wilkinson. Mackley Bros. (2). **CINNAMON.**—*Jonque.*—1, 2, and 3, C. J. Salt. *vhc.* C. J. Salt. Mackley Bros. R. J. Pope. *Buff.*—1, 2, and 3, C. J. Salt. *vhc.* C. J. Salt. *Any other variety.*—1, 2, and 3, C. J. Salt. *Marked or Variegated, irrespective of colour.*—1, 2, and 3, Mackley Bros. *vhc.* C. J. Salt. Mackley Bros. **ANY OTHER VARIETY OF CANARY.**—1, 2, and Extra, Mackley Bros. 3, R. W. Wilson. *vhc.* C. J. Salt.

MULES.—*GOLDFINCH.*—*Evenly-marked Yellow.*—1, 2, and 3, C. J. Salt. *vhc.* C. J. Salt (2). J. H. Thackrey. J. A. Sleep. *Evenly-marked Buff.*—1, 2, and 3, C. J. Salt. *vhc.* C. J. Salt (3). Stevens & Tennisswood. *Any other class of Yellow.*—1, Stevens & Tennisswood. 2 and 3, C. J. Salt. *vhc.* C. J. Salt. J. A. Sleep. *Any other class of Yellow.*—1, Stevens & Tennisswood. 2 and 3, C. J. Salt. *vhc.* C. J. Salt (2). J. H. Thackrey. *Dark Jonque.*—1, 2, and 3, C. J. Salt. *Dark Mal.*—1, 2, and 3, C. J. Salt. *vhc.* J. A. Sleep. *Six in one cage.*—1, C. J. Salt. 2, J. A. Sleep. **LINNET.**—1 and 2, Stevens & Tennisswood. 3, J. Spence. **ANY OTHER DESCRIPTION.**—1, J. Drake. 2, Stevens & Tennisswood. 3, Mrs. Tallent. *Extra Prize.* C. J. Salt. *vhc.* J. Robinson. **NORWICH.**—*Six in one cage, irrespective of colour.*—1 and *vhc.* C. J. Salt. 2, Mackley Bros. **LIZARDS.**—*Best six in one cage, irrespective of colour.*—1, Climbison & Hampton.

FOREIGN BIRDS.—BULGARIAN.—1, J. Yallop. 2, R. Pearson. **GOLDFINCH.**—1, R. Robinson. 2, C. Danbridge. *vhc.* J. Read. **CHAFFINCH.**—1 and 2, C. Varethi. *vhc.* F. E. Dunn. **LINNET.**—1, F. Robinson. 2, W. Carrick. *vhc.* J. Lothhouse. R. Pearson. **REDPOLE OR SISKIN.**—1, F. H. Townsend. 2, J. Good. **SKYLARK.**—1 and 2, Judd. **ROBIN.**—1, W. Swaysland. 2, Mackley Bros. **BLACKBIRD.**—1, Mrs. Sleep. **SONG THRUSH.**—1, Judd. 2, Mrs. J. Fogg. *vhc.* J. A. Highton. **STARLING.**—1, J. Drake. 2, Miss Campbell. **MAGPIE, JAY, or JACKDAW.**—1, Mrs. Fogg. **ANY OTHER VARIETY.**—1, Mackley Bros. 2, J. Hill. **Extra.** H. F. Martin. *vhc.* J. Lee, jun. J. F. Hills.

BIRDS OF PASSAGE AND MIGRATORY BIRDS.—BLACKCAP OR NIGHTINGALE.—1, J. F. Hills. 2, C. Varethi. *vhc.* C. Varethi. J. F. Hills. **ANY OTHER VARIETY.**—1 and Extra, J. F. Hills. 2, C. Varethi. *vhc.* H. Lee.

FOREIGN BIRDS.—WIDAR BIRDS.—1, Mrs. Arabin. **CARDINAL.**—*Red-headed.*—1, J. Groom. 2, Judd. *vhc.* W. Burniston. **WAXBILLS.**—1, E. Hawkins. 2, J. Drake. 3, W. Burniston. **FINCHES.**—*Foreign.*—1, A. Wiener. 2, J. Drake. **SPARROWS.**—*Java.*—1, J. Drake. 2, J. Judd. *vhc.* J. Drake. W. Burniston. **DIAMOND.**—1, Mrs. Arabin. **LOVE BIRD.**—1, Mrs. M. E. Newmarch. 2, E. Hawkins. **PAROQUETS.**—*Australian Grass.*—1, J. Drake. 2, Mrs. M. E. Newmarch. *Ring-necked or Indian.*—1, Miss A. Brooke. 2, Mrs. Cook. *Extra Prize.* Mrs. Arabin. 3, J. A. Batts. **COCKATEALS.**—1, J. Groom. 2, Mrs. M. E. Newmarch. **SMALL PAROQUETS OR PAROQUETS.**—1, J. Abraham. 2, F. Hallet. *vhc.* J. Abraham. J. Groom. **PAROQUETS.**—*Grey.*—1, Mrs. Keays. 2, J. Abraham. 3, J. Groom. *Green.*—1, Mrs. Keays. *Any other variety of colour except Grey.*—1, E. A. Nankivell. 2, J. Abraham. 3, F. Schweiss. *vhc.* Mrs. C. E. Welsh. J. Abraham. (2). **COCKATOO.**—1 and 3, J. Groom. 2, E. Mayell. *vhc.* J. Abraham. **ANY OTHER VARIETY.**—1 and Extra, F. Schweiss. 2, J. Drake. 3, E. Hawkins. **Extra.** J. J. Abraham. *vhc.* Mrs. Arabin (3). **SELLING CLASS.**—1, J. Robinson. 2, W. Radmore. 3, E. Martin. 4, E. H. Sweeting. 5, E. Hawkins.

JUDGES.—Mr. W. A. Blakston, Sunderland; Mr. E. Bemrose, Derby; Mr. F. W. Wilson.

INDOOR RABBIT HUTCHES.

THE outdoor Rabbit hutch is a comparatively simple structure, but there are many contrivances for inside hutches which tend to make them somewhat intricate. For the more hardy Rabbits outside hutches are advisable, but some of the delicate breeds, such as Lops, require more warmth and regularity of temperature than can be guaranteed in an outdoor hutch in this country.

In size the indoor hutch should not be less than 2 feet 6 inches long, 15 inches deep, and 10 inches high, and for Rabbits that are of unusual size it is of course necessary to have the hutches made considerably larger. The bottom of the hutch should be covered with metal or a slab, for the wet will sink into wood, and especially where there is any artificial heat a very unpleasant smell is emitted, which is far from being healthy. This kind of floor would not do for the Rabbits to stand on, as it would cause colds and sore feet. Hence it is necessary to raise the actual floor an inch above it. The best way is to make a wooden slab-frame-floor which will, if properly managed, keep the hutch sufficiently dry and clean. A wire frame floor will also keep the hutch very clean and sweet, but the wire is too hard for the feet, and sore hocks will be sure to be the result. The spars should be about three-quarters of an inch across, and rather less than that distance apart, perhaps half an inch. The wood should be of a hard nature, and pine should not be used as it has too great a tendency to absorption. As, however, it is not the cheapest kind of wood there is, this caution is probably hardly necessary. Oak would be the best, but it is of course too expensive. These slabs should be planed very smooth, and the edges should be shaved off a little so as to enable the waste to pass through easily. The great danger is that the Rabbits' legs will get between the slabs and be broken, but if the width of space does not exceed half an inch there can be but little danger of that. The false floor should be placed about an inch above the slate or metal floor so that the wet will not rise. This floor should be made the size only of the open compartment, the dormitory, which should always be closed until the doe is far advanced in pregnancy, being provided only with a wooden floor, which is the warmest. The dormitory should be about a foot long, and extend the full depth of the hutch. In case the Rabbits are of a small kind 10 inches will be sufficient, but it is important that while making the room large enough for the Rabbit to turn round in, it should not be too large, or it will not be warm. The whole of the front of it should be covered with a dark wooden door, which should open sideways and away from the centre of the hutch. The partition should not be fixed in, but should be fitted between two grooves. A circular hole about 18 inches in circumference should be cut in it near the back portion of the hutch, for the Rabbits to pass through. A few tacks driven into the edges well knocked home so as to keep them from catching the Rabbits' skins will prevent or at any rate check gnawing. A small door will be necessary to cover this to keep the doe out until nesting time has begun. If the circular piece that has been taken out has been kept it may be used. A small hinge may be fixed on the top, and a button on the bottom, or it may be fixed entirely by buttons. In this latter case the door can be taken away altogether, and is perhaps the best plan, as when fastened by a hinge the door may get shut up accidentally, in which case the young may be neglected owing to their mother being unable to get to them. For the large room a door that will admit light and air will be necessary. For Lop breeding a door of the following description will be found to answer well. The groundwork should be three-quarter-inch wood. Along the top a strip of wire about 2 inches wide should be fixed so as to afford ventilation. Then to give light a piece of glass—circular is the prettiest, but square will do—should be fixed as a kind of window in the centre. The frame should be made to fit tight at the sides and bottom, but a little loose at the top, leaving a space of about a quarter of an inch. This will give ventilation, and at the same time avoid draughts. The frame should be fixed with two hinges and fastened by a small bolt or lock.

Another very good front, if the hutch is not intended solely for Lops, may be made in a much more simple manner. Make a frame the size of the opening of good inch wood, about 2 inches wide, the corners being well dovetailed together. Cover this with a strong framework of iron netting, such as can be bought for about 6d. a yard at any ironmonger's, or strong iron bars may be fixed downwards about 1½ inch apart into the two frames. This latter operation is a very tedious one, and but little is gained by it, especially as the hutch being intended for inside use only will not be subjected to such rough treatment as the outdoor ones. For all practical purposes the common aviary wire will answer every purpose, and is cheaper and more easily applied than the bars. It should be carefully fixed to the frame by means of rivets, which can be purchased with the wire. If only nails are used the wire will be constantly coming off and giving trouble, besides giving the inmates a mode of very dangerous egress, which would very likely end in a broken head or two.

A few holes should be drilled in the bottom of the hutch near the back, through which the wet will be able to run, besides which they will enable a good swilling to be given to the floor sometimes, and let the water run off easily. A slip is sometimes taken out along the back end, but this is hardly to be recommended, as it is sometimes the cause of a draught. A small hayrack will be found useful in a hutch, and one of a suitable size can easily be made by any fancier.—G.E.A.

CHLOROFORMING BEES.

Last autumn I saw one of my neighbours (a farmer) very busy in his bee garden, and found that he was destroying a certain number of stocks with sulphur. This autumn he agreed to let me take the honey for him. On the 28th of September I waited upon him with one of Pettitt's ten-bar hives and some chloroform and commenced operations about 7 p.m., upon three straw skeps, giving each hive 1 drachm of chloroform. Last year he destroyed six. After waiting a few minutes I shook out all the stupefied bees on to newspaper. The bees from the three stocks I put into the bar hive, filling it a third full as well as I could see, and carried it home a quarter of a mile, placing it on a stand having a south-west aspect. I then filled one of Pettitt's feeding troughs holding a pint of syrup, and placed it on the crown board.

The bees commenced feeding next morning, and a week's beautiful weather supervening they were very busy each day, and have continued so to the present time. I have given them 36 lbs. of syrup made from 24 lbs. of loaf sugar, costing 4½d. per pound. The hive is now nearly full of beautiful comb and very weighty; I have therefore discontinued feeding and secured them for the winter from wet and cold. By this means I have not only saved the lives of thousands of our industrious little friends, but have added to my apiary another large colony at the very small cost of 9s. I suppose the bees destroyed two out of the three queens placed in the hive.

Hoping these lines may induce other apirians to try chloroform with a similar success when driving is not convenient must be my apology for writing.—H. C.

OUR LETTER BOX.

POULTRY FOR PROFIT (*A Struggling Clerk*).—Keep a Coloured Dorking cock and six Dark Brahma hens.

COCKBURN'S TAIL (*A. Z.*).—We know of no mode of curing a tail that is carried on one side. There is a spinal defect probably. For Ducks there is no food more nourishing than barley meal and Indian meal.

BEE-KEEPING (*Ligurian*).—"Bee-keeping for the Many." You can have it from our office if you enclose five postage stamps with your address.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.				IN THE DAY.						Rain.
1877.	Barom. ter at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.			
Nov.		Dry.	Wet.			Max.	Min.	In sun.	On grass.		
We. 7										Inches.	
Th. 8	29.598 <td>57.3<td>54.9<td>W.<td>57.1<td>58.0<td>54.3<td>61.2<td>52.7<td>39.1<td>0.053</td></td></td></td></td></td></td></td></td></td>	57.3 <td>54.9<td>W.<td>57.1<td>58.0<td>54.3<td>61.2<td>52.7<td>39.1<td>0.053</td></td></td></td></td></td></td></td></td>	54.9 <td>W.<td>57.1<td>58.0<td>54.3<td>61.2<td>52.7<td>39.1<td>0.053</td></td></td></td></td></td></td></td>	W. <td>57.1<td>58.0<td>54.3<td>61.2<td>52.7<td>39.1<td>0.053</td></td></td></td></td></td></td>	57.1 <td>58.0<td>54.3<td>61.2<td>52.7<td>39.1<td>0.053</td></td></td></td></td></td>	58.0 <td>54.3<td>61.2<td>52.7<td>39.1<td>0.053</td></td></td></td></td>	54.3 <td>61.2<td>52.7<td>39.1<td>0.053</td></td></td></td>	61.2 <td>52.7<td>39.1<td>0.053</td></td></td>	52.7 <td>39.1<td>0.053</td></td>	39.1 <td>0.053</td>	0.053
Fri. 9	29.839 <td>44.5<td>44.5<td>W.<td>49.7<td>57.0<td>43.3<td>81.2<td>39.1<td>0.053</td></td></td></td></td></td></td></td></td>	44.5 <td>44.5<td>W.<td>49.7<td>57.0<td>43.3<td>81.2<td>39.1<td>0.053</td></td></td></td></td></td></td></td>	44.5 <td>W.<td>49.7<td>57.0<td>43.3<td>81.2<td>39.1<td>0.053</td></td></td></td></td></td></td>	W. <td>49.7<td>57.0<td>43.3<td>81.2<td>39.1<td>0.053</td></td></td></td></td></td>	49.7 <td>57.0<td>43.3<td>81.2<td>39.1<td>0.053</td></td></td></td></td>	57.0 <td>43.3<td>81.2<td>39.1<td>0.053</td></td></td></td>	43.3 <td>81.2<td>39.1<td>0.053</td></td></td>	81.2 <td>39.1<td>0.053</td></td>	39.1 <td>0.053</td>	0.053	
Sat. 10	29.624 <td>53.8<td>51.4<td>S.<td>49.0<td>56.2<td>43.7<td>60.4<td>39.4<td>0.171</td></td></td></td></td></td></td></td></td>	53.8 <td>51.4<td>S.<td>49.0<td>56.2<td>43.7<td>60.4<td>39.4<td>0.171</td></td></td></td></td></td></td></td>	51.4 <td>S.<td>49.0<td>56.2<td>43.7<td>60.4<td>39.4<td>0.171</td></td></td></td></td></td></td>	S. <td>49.0<td>56.2<td>43.7<td>60.4<td>39.4<td>0.171</td></td></td></td></td></td>	49.0 <td>56.2<td>43.7<td>60.4<td>39.4<td>0.171</td></td></td></td></td>	56.2 <td>43.7<td>60.4<td>39.4<td>0.171</td></td></td></td>	43.7 <td>60.4<td>39.4<td>0.171</td></td></td>	60.4 <td>39.4<td>0.171</td></td>	39.4 <td>0.171</td>	0.171	
Sun. 11	29.883 <td>51.0<td>47.1<td>S.W.<td>49.7<td>55.5<td>46.6<td>79.8<td>42.2<td>0.102</td></td></td></td></td></td></td></td></td>	51.0 <td>47.1<td>S.W.<td>49.7<td>55.5<td>46.6<td>79.8<td>42.2<td>0.102</td></td></td></td></td></td></td></td>	47.1 <td>S.W.<td>49.7<td>55.5<td>46.6<td>79.8<td>42.2<td>0.102</td></td></td></td></td></td></td>	S.W. <td>49.7<td>55.5<td>46.6<td>79.8<td>42.2<td>0.102</td></td></td></td></td></td>	49.7 <td>55.5<td>46.6<td>79.8<td>42.2<td>0.102</td></td></td></td></td>	55.5 <td>46.6<td>79.8<td>42.2<td>0.102</td></td></td></td>	46.6 <td>79.8<td>42.2<td>0.102</td></td></td>	79.8 <td>42.2<td>0.102</td></td>	42.2 <td>0.102</td>	0.102	
Mo. 12	29.351 <td>51.0<td>47.8<td>S.W.<td>48.6<td>52.8<td>43.2<td>51.6<td>40.5<td>0.875</td></td></td></td></td></td></td></td></td>	51.0 <td>47.8<td>S.W.<td>48.6<td>52.8<td>43.2<td>51.6<td>40.5<td>0.875</td></td></td></td></td></td></td></td>	47.8 <td>S.W.<td>48.6<td>52.8<td>43.2<td>51.6<td>40.5<td>0.875</td></td></td></td></td></td></td>	S.W. <td>48.6<td>52.8<td>43.2<td>51.6<td>40.5<td>0.875</td></td></td></td></td></td>	48.6 <td>52.8<td>43.2<td>51.6<td>40.5<td>0.875</td></td></td></td></td>	52.8 <td>43.2<td>51.6<td>40.5<td>0.875</td></td></td></td>	43.2 <td>51.6<td>40.5<td>0.875</td></td></td>	51.6 <td>40.5<td>0.875</td></td>	40.5 <td>0.875</td>	0.875	
Tu. 13	29.958 <td>43.7<td>40.3<td>S.<td>48.5<td>53.0<td>39.8<td>82.6<td>38.3<td>0.010</td></td></td></td></td></td></td></td></td>	43.7 <td>40.3<td>S.<td>48.5<td>53.0<td>39.8<td>82.6<td>38.3<td>0.010</td></td></td></td></td></td></td></td>	40.3 <td>S.<td>48.5<td>53.0<td>39.8<td>82.6<td>38.3<td>0.010</td></td></td></td></td></td></td>	S. <td>48.5<td>53.0<td>39.8<td>82.6<td>38.3<td>0.010</td></td></td></td></td></td>	48.5 <td>53.0<td>39.8<td>82.6<td>38.3<td>0.010</td></td></td></td></td>	53.0 <td>39.8<td>82.6<td>38.3<td>0.010</td></td></td></td>	39.8 <td>82.6<td>38.3<td>0.010</td></td></td>	82.6 <td>38.3<td>0.010</td></td>	38.3 <td>0.010</td>	0.010	
Tu. 13	29.326 <td>48.3<td>42.8<td>S.<td>47.0<td>53.7<td>39.1<td>74.0<td>34.6<td>—</td></td></td></td></td></td></td></td></td>	48.3 <td>42.8<td>S.<td>47.0<td>53.7<td>39.1<td>74.0<td>34.6<td>—</td></td></td></td></td></td></td></td>	42.8 <td>S.<td>47.0<td>53.7<td>39.1<td>74.0<td>34.6<td>—</td></td></td></td></td></td></td>	S. <td>47.0<td>53.7<td>39.1<td>74.0<td>34.6<td>—</td></td></td></td></td></td>	47.0 <td>53.7<td>39.1<td>74.0<td>34.6<td>—</td></td></td></td></td>	53.7 <td>39.1<td>74.0<td>34.6<td>—</td></td></td></td>	39.1 <td>74.0<td>34.6<td>—</td></td></td>	74.0 <td>34.6<td>—</td></td>	34.6 <td>—</td>	—	
Means	29.440 <td>48.9<td>47.0<td><td>48.9<td>55.2<td>44.7<td>71.4<td>41.0<td>1.315</td></td></td></td></td></td></td></td></td>	48.9 <td>47.0<td><td>48.9<td>55.2<td>44.7<td>71.4<td>41.0<td>1.315</td></td></td></td></td></td></td></td>	47.0 <td><td>48.9<td>55.2<td>44.7<td>71.4<td>41.0<td>1.315</td></td></td></td></td></td></td>	<td>48.9<td>55.2<td>44.7<td>71.4<td>41.0<td>1.315</td></td></td></td></td></td>	48.9 <td>55.2<td>44.7<td>71.4<td>41.0<td>1.315</td></td></td></td></td>	55.2 <td>44.7<td>71.4<td>41.0<td>1.315</td></td></td></td>	44.7 <td>71.4<td>41.0<td>1.315</td></td></td>	71.4 <td>41.0<td>1.315</td></td>	41.0 <td>1.315</td>	1.315	

REMARKS.

- 7th.—Warm wet morning, warm all day; fine afternoon and evening.
8th.—Slight fog in morning, very dark 9 to 9.30 A.M.; fine and pleasant afterwards.
9th.—Wet all day, heavy rain at times; high wind in afternoon.
10th.—Early part of morning fine; hail and heavy shower at 11.15 A.M., and showers afterwards, with occasional sunshine.
11th.—Thunder and lightning about 4.30 A.M.; fine till 9 A.M., then wet and very violent wind, especially after 3 p.m.
12th.—Barometer reached its minimum (29.693 in.) at midnight; at 0.15 A.M. there was very heavy rain and the gale suddenly ceased; morning bright, but afternoon dull with shower.
13th.—Foggy and misty except in afternoon.
The weather continues mild, and the daily maximum temperature remarkably uniform; during the past thirteen days it has not been less than 52.8° (on 11th) or more than 58.4° (on 6th). Very heavy gale on Sunday evening.—G. J. SIMONS.

COVENT GARDEN MARKET.—NOVEMBER 14.

TRADE keeps very quiet, scarcely anything doing. First-class samples of Apples are in demand. Pine Apples from the Azores are now making their appearance, home-grown fruit being very much depressed in consequence. Cobs are quiet.

FRUIT.


	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	½ sieve	2	6 to 5	0	Melons.....	each	1	6 to 4	0
Apricots.....	dozen	0	0	0	Nectarines.....	dozen	0	0	0
Chestnuts.....	bushel	8	0	12	0	Oranges.....	£ 100	10	16
Currants.....	½ sieve	0	0	0	0	Peaches.....	dozen	0	24
Black.....	½ sieve	0	0	0	0	Pears, kitchen..	dozen	1	0
Figs.....	dozen	1	0	8	0	dessert.....	dozen	2	0
Filberts.....	lb.	0	6	0	8	Pine Apples....	lb.	3	0
Cobs.....	lb.	0	6	0	8	Plums.....	½ sieve	0	0
Gooseberries..	½ bushel	0	0	0	0	Raspberries....	lb.	0	0
Grapes, hothouse	lb.	1	6	6	0	Walnuts.....	bushel	5	0
Lemons.....	£ 100	6	0	10	0	ditto.....	£ 100	0	0

WEEKLY CALENDAR.

Day of Month		Day of Week	NOVEMBER 22—28, 1877.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
				Day.	Night.	Mean	h. m.	h. m.	h. m.	h. m.	Days.	m. s.	
22	TH		J. Sherard died, 1788.	49.2	31.7	41.9	7 33	4 0	4 38	9 44	17	13 30	323
23	F		OLD MARTINMAS DAY.	47.6	31.2	40.9	7 34	3 59	5 45	10 43	18	13 22	327
24	S		Leeds Show.	47.4	34.7	39.5	7 36	3 58	7 5	11 27	19	13 4	328
25	SUN		26 SUNDAY AFTER TRINITY.	45.4	33.7	40.0	7 37	3 57	8 32	11 58	20	13 46	339
26	M			47.2	32.9	40.0	7 39	3 56	10 0	0 20	21	12 27	340
27	Tu		Manchester Show.	47.0	33.6	40.3	7 40	3 55	11 25	0 37	22	12 7	341
28	W		Sale of Bulbs at Stevens's Rooms.	43.1	33.9	41.0	7 42	3 55	morn.	0 51	23	11 47	342

From observations taken near London during forty-three years, the average day temperature of the week is 47.9°; and its night temperature 33.5°.

CHERRIES AS ESPALIERS.

F all the fruits of the garden Cherries are perhaps the most unsatisfactory. The trees may grow freely, blossom freely, and fruit freely, yet the harvest of fruit is often a barren one owing to the depredations of birds. I am not now writing of Cherry districts where trees are grown by the acre, and where there is much more fruit than the birds can eat, but of ordinary gardens where there is perhaps a dozen blackbirds and thrushes to one Cherry tree. In that case it is not difficult to decide where the Cherries will go, for unless effectual steps are taken preventing them the birds will have nearly every one. That has been my experience. From the dozen fine trees in the orchard under my charge I have reaped little beyond vexation and annoyance, for Cherries I could secure but few, owing to what some call "pets," but which I (during the fruit season) regard as pests—the birds. The loss of the crop was the more annoying, since I was frequently reminded that Cherries were the "favourite fruit of the family"—the reverse of "good news" to the family's gardener. To cover the few large trees with nets was impracticable, and there was no room on the walls for Cherry trees. It then became a question, since Cherries must be had, whether to plant trees and train them in the bush or pyramid form, or whether to plant and train them as espaliers. I had an inclination for the latter, my employer rather preferring the former mode of culture. The result was a compromise, and both systems were adopted. That is many years ago, and many excellent crops have been gathered from both sets of trees; but those trees which have given the most fruit with the least trouble have been the espaliers.

So admirably are Cherries adapted for this mode of culture, so well do the trees bear, so attractive do they look both when blossoming and fruiting, and, especially, so easily can the fruit be protected from birds, that it is a little surprising that espalier Cherry trees are not as frequently seen as espalier Apple trees—not so numerous, of course, but yet represented in every garden which is considered well furnished for meeting the requirements of an opulent family. Yet we seldom find a row or rows of espalier Cherries.

I know only one other mode of growing Cherries that is at all comparable (leaving walls out of the question) to growing them as espaliers and training their branches horizontally, and that is training them to strained wire fences on the diagonal-cordon system. I have not had much experience with this mode of culture, yet I have had sufficient to prove its worth, and were I now called upon to furnish a garden with trees I should certainly have a long stretch of diagonal-cordon Cherry trees. It is the quickest of all modes of producing a "hedge," affords the greatest variety of sorts in a given space, and enables crops of fruit being perfected which cannot be surpassed by any other means. Yet while I should make

due provision for carrying out this system of Cherry culture I should not ignore the value of the old-fashioned horizontally-trained espaliers, for the trees on this plan when established will, I believe, last for generations, and would, I think, although I am not certain on that point, continue in health longer than the much more restricted diagonal cordons.

A point of importance in essaying the espalier mode of culture with Cherry trees is not to have the wires of the fence too close together. The first espalier fence that I had made for Cherries had the wires strained 8 inches apart, but that, in the case of many varieties, proved much too close, and after a time every alternate branch had to be removed, to the great benefit of the trees and crops. The simplest and the best rule of guidance for determining the proper distances for training the branches of fruit trees is to take note of the length of the leaves during summer, and then adopt the principle carried out with rows of Peas—namely, that the same distance should be allowed between the rows as the Peas grow in height; so with fruit trees, the same (or a little greater) distance should be allowed between the branches as the leaves grow in length. The spurs then receive light and air, which are essential to fruitfulness; whereas if the leaves of one branch are allowed to overlap and shade the next, bold fruitful spurs cannot be produced. That applies to all fruit trees, but to none with greater force than the Cherries, and barrenness of these trees is more contributed to by overcrowding than by any other mistake in culture.

Many varieties of Cherries have foliage a foot in length, therefore when the branches are trained horizontally they should be fully that distance apart. That is a good distance for such sorts as the Duke section, while for the Black Hearts and Bigarreus 15 inches apart is not too much for straining the wires.

I am not a believer in the orthodox height of 4 feet for fruit-tree fences. I cannot see any good reason for limiting a row of espaliers to that height when 2 feet more can be added without occupying an inch more ground—2 feet of clear gain I call it, and that in 100 yards length means a great increase of fruit. I do not, however—at least in the case of Cherries—advocate a greater height than 6 feet, because they could not then be so conveniently protected from birds, but for Apples, and Pears I have had good evidence that wire fences 9 feet in height are relatively more profitable than lower espaliers.

Protection of the Cherries from birds is an important point in the management of the trees. All the labour of growing the trees and the cost of supporting them is spent in vain if the pets or pests, as the case may be, are not kept from the fruit: and it is in this matter that I have found the value of espaliers. A bush can be netted, but at the best I have always felt the operation as bungling as it is bundling; fastening and unfastening every time a dish of fruit has to be gathered is no joke when other and urgent work on all sides is waiting to be done. But with espaliers the work of protecting is comparatively easy. Here is the plan: Erect a rough framework over a hedge of Cherries by

inserting some stout poles or battens at intervals of the length, or nearly so, of roofing laths—"rock lats," my old handy man calls them. Let the uprights be $2\frac{1}{2}$ feet from the base of the trees slanting to a foot from the hedge at the top, or rather a little above the top, to secure head room. Secure the tops of the uprights together by cross pieces; now from upright to upright fasten the long light roofing laths, and the skeleton is complete and ready for the net. I have always employed old fish nets, which are both cheap and strong, and I have had no difficulty in obtaining them 18 feet wide. These placed over the framework before the fruit shows colour remain there until it is gathered. The birds are thus baffled, no loss of time occurs in netting and unnetting daily, and Cherry-picking becomes a pleasure.

Now that the time of fruit-tree planting has arrived, and since Cherries are scarce in so many gardens and birds numerous, it may be opportune, perhaps, to mention what I conceive to be the best method of growing this much-esteemed fruit; at any rate if any cultivator can propound a better plan—one more easy, certain, and enjoyable, I shall be glad to hear of it. Morellos do excellently as espaliers, and require little or no protection from birds; at least our birds do not appear to like them.—A NORTHERN GARDENER.

ROSE SHOWS.

WHY DO NOT ROSE SHOWS PAY? CAN ROSE SHOWS BE MADE TO PAY?

THESE questions are often in people's mouths, and engage interest and amuse many besides rosarians, and as I believe them to be questions for the purse-string-holding public to have a voice in, though, as I intend to show, by no means to answer, kindly open the columns of the Rose Journal to a fair discussion and better understanding than now appears to exist.

As one of the public I have always had a fancy for Rose shows, and rejoice to know that I am by no means singular in this respect. Ladies young and ladies not quite young vow Rose shows to be their pet exhibitions. Most men of refined tastes and the least capacity for quiet enjoyment affect them, and yet Rose shows are not sufficiently popular, with hardly an exception, to keep a balance on the right side. Our modern Jupiter is aware of this feeling, and published to the world last July how consistently it went with the times, by reporting in three lines and a half the event of the Great National Rose Show in St. James' Hall, at the foot of a paragraph detailing at length the proceeding of two general London exhibitions. It is easy to say, "Do not be in a hurry; give the public good permanent Rose shows and they are certain to pay. Does not a good article always create and keep-up a market?" Has this been the case as yet with Rose shows? Ugly facts say not. Rose shows of undoubted excellence have existed at Birmingham, Manchester, Wisbech, &c. Some for years made a struggle for existence—notably Birmingham. Where are they now? Consigned to that limbo, alas! where many others in a moribund condition (he would be a bold man indeed to particularise), must descend, who are now publishing, as I once read in the Journal "WILD SAVAGE" in grim humour stated, only "4d. balance" sheets. As a humble unit of the public, and I confess at once I do not belong to that favoured coterie who write grandiloquently about "the fair denizens of Flora's court," or "the roseate majesty of the queen of flowers" (it is the clerical element which comes out so remarkably strong in this line I cannot help noticing with a smile), but as one who has formed a tolerably strong opinion on the present state of Rose shows in a financial aspect.

I hold that Rose shows with the present large prize lists cannot pay. This is my solution to the first question, and until such exhibitions become popular with the masses, educated as conservative working men to the Dizzy heights of floricultural as well as political refinement, and inhabiting Dr. Richardson's new City of Health, I respectfully submit they ought thus organised never to be expected to pay. It was Wisbech, if my memory be true, which took the sad initiative some six or seven years ago in offering a big prize of £20 to big nurserymen, and which Rose show has since succumbed, like the vernal and too confiding maid in classic lore, under the fatal weight of her own golden bribe. Other provincial Rose shows have been compelled ever since to bid in equally high terms to insure competition, courting eventually sooner or later the same inevitable doom. Analogous examples are not wanting out of the pale of floral enterprise. The provinces also afford a case in point in the West Midland Festival of the

Three Choirs, where from a similar cause—unavoidably large expenses in the management, an annual undertaking, though hallowed by the sacred object of charity, would be in a pecuniary point of view an annual failure, unless by unwritten law a large guarantee fund were handed over to the credit of a debtor exchequer, simply because the leading artistes know their value and ask such exorbitant sums that pecuniary success is well-nigh impossible.

Disagreeable subjects, as a rule, cannot be forgotten too soon, but it is not very long ago that this great clamour for big prizes crippled the career of the Royal Horticultural and Botanical Societies' exhibitions, which, now revised and encouraged with fair reasonable prize lists, far outstrip the former palmy efforts, and are year after year a source of credit to the management, of pleasure to our home and foreign visitors, as well as of well-deserved pride and satisfaction to our leading exhibitors, who can now read in each group of plants they stage the least expensive, widest distributed, and most remunerative advertisement. Why, then, cannot Rose exhibitions be made to pay by adopting this successful precedent?—(1), By Rose nurserymen agreeing to exhibit—because no Rose show is worthy of the name as a school of art both attractive and improving without their exhibits; (2), and exhibit for considerably reduced prizes—because no Rose show in town or country can pay its way unless they consent to do so. I grant that great differences, obstacles, and inequalities exist, and some private sacrifices must be made in the cause; but granting that in the season for Rose shows being so short, distances often so long, and railway trains and service to and from the provinces so tortuous and unaccommodating (to metropolitan Rose shows there never was or will be lack of exhibitors), we find a reason; still I fail to allow these as an excuse for so few nurserymen exhibiting at provincial Rose shows. If Rose nurserymen hold the key of the position, and I as one of the public affirm they do, then they have the game in their own hands—*e.g.*, the whole future of Rose shows, and with them it lies to unlock this well-worn difficulty which has hitherto baffled the efforts, however persevering or judicious, of every energetic honorary secretary, and under the present system of prizes must continue to do so. It is not often that public patriotism and private interests go hand in hand; in this case they do.

The present enormous and yearly increasing sale of Roses mainly owes its origin and continuance to Rose exhibitions. Shall the parent unnaturally be done to death by its own offspring, and that in the Rose nurseries of England? Rather let their fosterfathers take the question in their own hands and answer in the affirmative courteously and successfully, as they know so well how to do, the long-veiled question, Can Rose shows pay? asked by—ONE OF THE PUBLIC.

NOTES ON VEGETABLES.

THE summer just closed (if it deserves the name), has been most remarkable for the dearth of fruit. The kitchen garden crops also have been considerably affected by its peculiarities, and while my memory is fresh I will notice a few of its effects upon the different crops. To begin alphabetically: Artichokes have been abundant and good, the older plantations lasting in bearing to the present time; and this is fortunate, for the spring-planted roots on which we depend for the late-autumn supply have this season done nothing. Asparagus, which promised in February to be very early, was, after all, very late, and the season consequently short; many of the heads also were injured by frost, and altogether it was not up to the usual standard. There was a danger of the crowns not getting ripe this autumn, but the fine September did an immense amount of good for this crop as well as for many others. Some roots placed in the forcing house are starting very freely. French Beans and Scarlet Runners were late, but were good and abundant when they did come. In this respect we were more fortunate than many of our northern friends, some of whom indeed have not been able to gather a dish outside at all.

Spring Broccoli was good, and the autumn crop (Snow's and Veitch's Autumn Protecting), which at one time lagged behind, as did, indeed, all the Brassicas, has commenced turning-in and is very fine. The first-named has been a good old friend, but I think it must give place to Veitch's Autumn Protecting, which turns-in at the same time, or it may be a few days earlier, is larger and of equally good quality. Probably, too, it will prove hardier. Brussels Sprouts, sown in February in a Potato frame, were fit for gathering in September, and

will last till February. We, however, generally make a second sowing in April. The sort with the incurved leaves, generally called the "imported" stock in catalogues, is still the best that I know. Cardoons are late and will not be large; they were badly midewed at one time but have now recovered. Carrots, for which there is always a great demand in the young state, are sown in succession from February till the middle of July. The first lot is sown on a hotbed, and the last, which stands out all winter, on a south border. "French Forcing" is sown for the earliest crop, "Short Horn" for the latest, and it, with "James' Intermediate," for mid-season.

The season has suited Canlidflowers, and they are still good. The last batch of "Autumn Giant" will, however, hardly turn in unless we have a continuance of mild weather, which for the sake of the already fast-swelling fruit buds is not to be wished for. Celery has done well, there has been no fly and no disease. Major Clarke's is still the best, but as it will not stand the winter well we grow "Sulham Prize" for the latest. A row of "Incomparable" or Sandringham White is grown for the earliest crop. The new "Fern-leaved Parsley" is extremely good both for use and ornament; if it proves as hardy as the older sorts, which I do not doubt, it is destined to drive all others out of cultivation. Parsnips were not sown till the middle of April, and all the better for it. We have given up early sowing on our cold soil.

Peas were three weeks late in being ready for gathering (middle of June), but they make up for it now, as we are still gathering (November 8th), almost every day from "Omega," sown the first week in July. This is a most valuable Pea, growing only 2½ feet high, is very healthy, very prolific, and of good quality. Gardeners are much indebted to Mr. Laxton for this and also for his "William I.," which is the best early Pea. These two, with Veitch's Perfection and G. F. Wilson for mid-season, are all the sorts I grow in quantity. Alpha is an early Pea of good quality, but it is not so hardy as William I.

Of Potatoes, the old "Ashleaf" and Myatt's Prolific were good, and were used before the disease had spread much. All the rest were a miserable failure and were not worth digging-up. On the light soils in the neighbourhood they are not so badly diseased as mine were, but they are very small and of indifferent quality. Tomatoes have not done well outdoors as they wanted more warmth, they have also had the disease badly. Turnips with me are excellent; the only sort grown excepting a few early white is Veitch's Red Globe.—WILLIAM TAYLOR.

CHRISTMAS ROSES.

In a mild season the flowers of the Christmas Rose come by or before the festival of Christmas. It certainly is the latest and earliest flower of the year, expanding, as Shakespeare expresses it, when

"The rain and wind beat dark December,"

for this, like a majority of herbaceous and alpine plants, delights in nothing so much as moisture and air. The rain is never too heavy nor the wind too strong for them; but during soft mild winters, though winter flowers appear to advantage, it is better in every way when Nature clothes Flora in snow, provides snug winter quarters for the humblest and gayest of plants. Though hid for a time, Nature gives back in richer fullness the "gold" of the Aconite and "pearl" of the Snow-drop. Winter is only really winter—seasonable and good, when, as Scott has said,

"No mark of vegetable life is seen,
No bird to bird repeats his tuneful call,
Save the dark leaves of some rude evergreen,
Save the lone redbreast on the moss-grown wall."

The fickleness and uncertainty of our climate must be the prompter of our cultivating some hardy plants in pots under glass in order to have them in season with certainty. Plants grown in pots may be more generally useful because portable, but I can picture to myself no sight so fair as a garden under glass of winter and spring-flowering plants. Winter gardens as we usually see them bear out none of the characteristics of a winter garden of northern climes. There are no mossy banks aglow with the Violets, Primroses, and Gentians; Crocuses, Cyclamens, Adonis, sheets of Aconites and Snowdrops, glorious Narcissuses and Hyacinths, Hepaticas, Anemones, Wallflowers, and Stocks are wanting; Arabis and Aubrietias clothe no rock or slope; there is no mountain of winter and spring Heaths, no ravine with its Laurustinuses and Rhododendrons, with other shrubs berried and flowered. Forget-me-nots and Omphalodes are not there; Saxifrages, Tritelcias, Squills, and knolls of

alpine Auricula, with its many congeners, become conspicuous only as absentees; Star of Bethlehem and Christmas Rose are not there, nor are they foreshadowed by autumn Crocuses, Colchicums, the Japan Anemone, and Kaffrarian Iris. These and others come nearer to my ideas of a winter garden than a display of tropical Palms—a desert of grandeur—unvarying similarity, instead of the ever-changing beauty marking the close and advent of the flower season of temperate climes. A winter garden from my point of view would be best represented in winter and early spring by flowering shrubs and plants—an alpinery, in fact, under glass, cold, or only sufficient hot-water piping near the glass to exclude frost. There is a host of plants for furnishing such a house, so that the wonder is they are not more generally employed.

Christmas Roses are fine outdoors, should the weather be open, from December to March. To have this and other gems with certainty in their natural season the plants must be grown under glass. The Christmas Rose is well known, and is deservedly popular, yielding as it does blooms at a time when flowers are scarce; yet it is not so frequently seen as a pot plant as its merits warrant. Large blooms 2 to 3 inches in diameter are freely produced in a light airy house from which frost is excluded; though a little frost does no harm, its exclusion secures the greatest abundance of bloom. Even gentle forcing may be practised successfully, the essentials being light, free ventilation, and liberal treatment.

The plants should be potted at the end of September. Plants with moderate-sized crowns will do well in 10-inch pots; 12 or 13-inch pots will not be too large for large crowns for making a grand new-year display in a conservatory. The size will, of course, need to accord with the size of the crowns. The plants should be lifted carefully; the loose soil coming freely from among the roots should be removed, and it will then be seen the size of pot each requires, allowing about 2 inches space all around the ball for fresh soil. We have only to drain well and work the soil among the roots, in potting pressing rather firm, keeping the crowns slightly raised in the centre of the pot, leaving sufficient space for watering, and plunging the pots to the rims in ashes in a sheltered situation outdoors, watering if dry weather ensue, the weather being usually moist enough in autumn without having to resort to artificial watering. Light turfy loam, with a third of leaf soil or a fourth of well-decayed manure, will grow them perfectly.

Early in December, or in November if the weather be severe, the plants should be taken under glass. The essentials to success are plenty of light, a well-ventilated atmosphere, copious supplies of water and liquid manure (not too strong) once a-week. They do admirably in a greenhouse from which frost is just excluded, yet they will bear gentle forcing, 50° being a maximum from fire heat. Though the plants are best lifted in September, especially when it is proposed to accelerate the flowering by gentle heat, nevertheless they may be lifted from the open ground any time up to December, potted and placed at once in a cool house, with a certainty of a rich reward of blooms in due time.

The plants should be well hardened off in spring and planted out in an open yet sheltered situation in rich light soil, making sure that the ball is thoroughly moist, and watering so as to solidify the soil about it. They will require no further attention, only to remove any weeds that may appear, and in September they may again be taken up, being equally as good as before, or better, inasmuch as they flower earlier the second than the first season, increasing year by year in size and value. Masses or lines of Christmas Roses outdoors are superb. The plants do well in any well-drained soil, but prefer a vegetable one, with shelter and slight shade in summer. I have employed them for winter bedding, lifting them in May and planting in shady borders, removing them to the beds and lines again in November, in which position they like a mulch of leaf soil or cocoa refuse.

Helleborus fetidus is the finest in foliage, which is its only recommendation, making a good centre to a group, having *H. niger* around it, then the purple *H. purpurascens*, banded by Winter Aconite and rings in order of *Hepatica angulosa*, double red, and single white Hepaticas; or *H. niger* major (maximum) for centre, with bands around of *H. atropurpureus*, *H. niger*, Winter Aconite, double blue Hepatica, double red Hepatica, white Hepatica, *Cyclamen hederifolium* for foliage, margined with *C. coum*, alternating with *C. coum vernum*, is a pretty combination.

For pots *H. niger*, *H. niger maximus* (major, giganteum),

H. orientalis, bluish; *H. atro-rubens*, purpled; and *H. olympicus*, white and red, are all suitable.—A.

GROS COLMAN GRAPE.

WITH reference to your note at page 387 of last week's issue, I beg to say that Gros Colman is a somewhat stubborn Grape to deal with, and more especially to colour well, but for the last four years we have had no difficulty in this respect, and to accomplish which we have simply allowed the lateral shoots to extend themselves as much as possible a week or two previous to colouring, and when colouring had commenced never removing a lateral from the Vine. This coupled with a reasonable amount of fire heat I believe to have conducted to perfect finish. Gros Colman is essentially the market grower's Grape, being extraordinarily prolific, of grand appearance, and when fully ripened a long way above second-rate in flavour. We have had it in fine condition up to the end of January, and hope to keep it much longer this season.—W. WILDSMITH, *Heckfield*.

AURICULA NOTES.

I HAVE now been a grower of Auriculas on and off for upwards of forty years, for I began their culture very early, but I have never gone through such an experience as this year. I have grown them on a windy bank overlooking the sea, in the back garden of a town house, and in other places quite favourable to success. My collection at times has only amounted to a few dozen, at others it has filled several frames; but all through those long years, as I look back on them and remember gratefully the pleasure I have derived from them (like all pleasures, bringing their troubles with them), never have the trouble, worry, and loss been so great as this year. I have already recounted my woes, but as the experience I have gained may be of use to others I may be excused if I refer to them again while stating their present condition, for I am not one of those favoured individuals that never have anything go wrong with them. One thing I do happen to know, and that is that others have suffered in some degree like myself, and that therefore there may be more to whom my experience may be a warning.

I began my winter season this time last year with about the best collection of Auriculas I ever possessed both as to quantity and quality; but as the weeks went on I noticed with a great many that set appearance which Mr. Horner speaks of, and of which I did not then know the cause. They made no signs of growth, and yet I could see no mark of drip or over-wetness which one might have naturally expected in such a season as last winter, and it was not until my attention was directed to the remarks about the woolly aphid in the Journal that I suspected what was really the matter. I hurried down to my frames and turned a pot out, and there sure enough was the enemy, or rather the signs of his presence, for I had not yet detected the aphid itself. I hardly knew what to do. The time of year was most dangerous for turning them out and repotting, and as I found by examination that all were not affected I hoped that the pest might not spread; nor do I think it did. Those already affected were apparently past hope: I therefore left them until early in May, when I repotted. This I did very carefully as I imagined, shaking the roots well out and washing them in Gishurst and water as I had been recommended; they were then placed in their summer quarters and I hoped were safe. My horror was great, on examining one or two of the pots in July, to find that the aphid was present in the most abundant and flourishing manner. My determination was soon made, and every one of the plants was turned out and potted again. This time I resorted to no half measures which I had proved to be so ineffective, and separately washed all the roots and the collars of the plants in the creases of which the aphides might find a home, and again placed them in their summer quarters. This was a venturesome proceeding, the question naturally occurring, Would the plants have the power of throwing out a sufficient quantity of roots to nourish the plants after the effort they had made to establish themselves after the first potting? I am now (November 10th) tolerably well satisfied with the result. I do not mean to say either that my collection looks as well as it ought to do or as well as I have seen it in other years, but still, after all it has undergone I am contented.

One thing this misfortune has led me to do, and the only wonder to me now is that I have never done it before, and that is to build a low house for my plants, so that I can get into it

in all weathers and give air without any danger of rain beating in. For a few pounds I managed to convert my old pit into this new one, and look forward, if I am spared, to enjoying my Auriculas as I have never done before. Moreover, those who come to see them will have the opportunity of doing so with greater ease and comfort than when they were on the ordinary stage on which I have heretofore bloomed them.

Another result of this twofold potting is, that I have had no autumn blooming; with the exception of a couple of General Neill and the same of Unique, which are always prone to do this, there have been none. But then the question is, What spring blooming shall I have? and it is of no use to say anything of the effect of this double potting until the bloom next year is over.—D., *Deal*.

THE POTATO CROP.

THIS garden was filled with diseased Potatoes in 1876, and I trenched it and applied ashes mixed with paraffin, and dusted the ground with lime, and used sometimes refuse from the fowl houses and a little stable manure. I planted a peck of Snowflake from Carter's (cut) on March 22nd, and took up 180 lbs. of large Potatoes, 120 lbs. of seed, and 30 lbs. of small on August 6th. There were ten diseased Potatoes among them. They are keeping splendidly, and when cooked they are as balls of flour. I planted Ashleaf Kidney March 12th, and took up a good crop on August 2nd; planted York Regents March 22nd, and took up a fair crop August 8th. Altogether we had 60 lbs. of diseased tubers and about a ton of eating Potatoes and seed.

The disease began in the tops on August 1st, and though the Potatoes were not then ripe we set to work and lifted at once, spreading them out thinly with a sprinkling of coal ashes. They are all keeping excellently, and the quality is first-rate. One of my neighbours who also trenched his garden had hardly any disease. Everyone else suffered terribly in the neighbourhood of Bath.—H. H.

MR. RICHARD SMITH'S NURSERY AT ST. JOHN'S, WORCESTER.

PART II.—THE FRUIT QUARTER AND THE WORCESTER PEARMAIN.

LET the truth be told. I had come to Worcester especially to see the fruit trees, for being an ardent pomologist both as regards the literature and practice of that science I wanted to see the best example of the latter that it was possible for me to set eyes on. When, therefore, Cox said to his master, "Shall we go, sir, to the fruit quarter now?" and the master said, "Yes, by all means," I own I pricked up my ears and hastened my steps.

There are at St. John's 50 acres of fruit trees. "Think of that, Hal! think of that!" Then the climate is very suitable, and as to the soil it seems to be made for growing fruit trees. The wood of the trees is throughout the nursery clean and bright as to bark, the wood of the year of extraordinary length, sometimes 8 feet and more, also thick and hard to the feel, being well ripened. The trees are like healthy well-fed children, who, of course, make the healthiest and strongest men and women. I never saw such an enormous growth for one year, and as was the growth of the Apples so of the Apricots, Peaches, and the rest. I walked round several patches of trees to see if there was any admixture, because if mixed they do not, of course, come "true to name," and then buyers are disappointed; but I could not find a "rogue" or a Judas among them. I can only liken each patch to a regiment of foot soldiers placed in a square. You walk round such a regiment, you see that all the uniforms are the same and the "facings" the same. If a soldier of another regiment were present you would detect his presence at a glance. So of each fruit-tree patch. Say, for example, if they be Lord Suffields, I notice wood, growth, habit, leaf; I should see one of another variety if it were there, but it was not. Three times a-year the trees are carefully inspected, so as to find out any possible mistake, and it is this care, added to the healthiness of the trees from St. John's (and, as said above, if a child is healthy as a child it will be healthy as a man), that is one great reason of Mr. Smith's success and of the vast sale of his trees. As I have given a dozen of the best Roses as seen at St. John's, so I would name a few of the best Apples.

Early Dessert—White Transparent; Early Margaret, pretty on the dish and pleasing to the palate; Irish Peach, A1 among August Apples. Early Kitchen—Worcester Pearmain, kitchen

and dessert, but of this a separate notice presently; Lord Suffield for August and September; then Ecklinville Seedling September and October, and Red Hawthornden somewhat earlier. Medium Dessert Apples—Cox's Orange Pippin and Golden Winter Pearmain. Medium Kitchen—Cellini, October to November; Stirling Castle, on to February; then later for the kitchen the Apple impossible to be too highly praised—viz., Dunselow's Seedling, better, at the fruit shops, known as Wellington; Tower of Glamis, Striped Beefein, and Alfriston complete the number. As to late dessert, Court Pendu Plat, Ribston Pippin, and Sturmer Pippin.

Let me add also a short Pear list for those whose gardens are small:—Summer Doyenné, Williams' Bon Chrétien, Jargonelle, and Bauré Giffard, followed by Bauré Hardy and Louise Bonne; while Bergamotte Esperen and Joséphine de Malines are the best late-ripening Pears. If you want or only have room for one Apricot, there is Large Early for you. As to Plums, Early Prolific and that most profitable of Plums, Victoria. I may notice in passing that at St. John's the trained trees if put in a line would reach eight miles; and as a specimen of the healthiness of the trees in Peaches, Nectarines, and Apricots, as well as Apples and Pears, I have noticed the extraordinary length of the wood made in one year.

Besides the larger fruits, I looked at the stock of Gooseberries and Currants. As a few of the best flavoured of the former I would name Pitmaston Green Gage, Catherine, Rough Red, and Whitesmith. Of Currants there are among the Reds Ruby Castle and Red Grape; and let me call especial attention to Lee's Prolific Black, on which all the berries ripen to the tip, a Currant, too, in which there is no acidity, and it wants little sugar in preserving. There are at St. John's plenty of cordon fruit trees, a form of growing perhaps not yet sufficiently taken up, but on which comes the finest fruit, and which the wind cannot blow off. I looked at the stock of Peaches, Apricots, Plums, Damsons, &c., and saw in all not only a vast supply but also there was not to be seen the least trace of disease.

Among the fruits, though specially noticeable as ornamental trees, I came upon a number of Purple-leaved Filberts, being good bearers of good nuts, and also the leaf as pleasing from its colour as a Copper Beech—eye and palate both pleased.

But next, ay! what next? Well, weary in this work, but not weary of the work, we bend our steps towards the office where luncheon awaits us, for man must eat, although the French wit said to the beggar who pleaded "a man must live," "I don't see the necessity of that in you." Yet each of us does see the full necessity at least in ourselves. Into the office, on to an inner room, the master's own, and what do I see? Some dozens of Worcester Pearmain laid out for me to look at. At once I exclaim, The Doctor was right, the pictures are not exaggerations. Although this has been a terribly unless summer, and no fruits are quite as well coloured as usual, yet what a display of handsome Apples!

To my mind an Apple deserving of the highest place must be up to the mark as regards both beauty and utility. Let me try the Worcester Pearmain by these two tests. First as to beauty, there must be beauty of form as well as colour. The Worcester Pearmain has this to perfection; its form is pleasing to the eye, not squatty, dumpy, or one-sided, or angular and ribbed, but large and broad at the base, and gradually narrowing to the crown—a true Pearmain shape. Any view of it as to shape is agreeable, for it meets the eye pleasantly. Then as to colour, its smooth skin is completely covered with a brilliant red, a glowing glorious colour, a treat to look at in England where we have too little brightness and deepness of colour. Certainly the Worcester Pearmain is among the very handsomest of Apples, and if a table covered with them looked brilliant, what must a tree look like in the glow of an autumn's golden sunlight? As to utility, its size is large, a requisite in a first-class Apple; also it grows well, forming a handsome tree, and crops very freely. I handle Apple after Apple and they seem almost too pretty to eat, but in goes my silver knife and I find the flesh to be tender and juicy and very pleasant. It is a fruit not only to adorn a dining-table, but to be welcome on the plate of the guests as well as to the dish of the host. I brought several specimens home with me; some I roasted, others I baked, and some I boiled, and it was a success however cooked. I pronounce, therefore, upon full examination that the Worcester Pearmain stands the test of beauty and utility, and it must be for ever one of England's first-class Apples, and when further distributed it will be sure to com-

mand a good price in the market, for its appearance is so attractive that it will at once find ready purchasers, who upon buying it will again become its purchasers. What I saw after lunch will supply materials for another and concluding paper.

While sitting and resting out of doors for awhile, Mr. Smith directed my attention to a mansion across the road, over the high walls of which rose to view some fine timber trees. "That," said Mr. Smith, "is Pitmaston House, where in old days lived Williams, a friend of Thomas Andrew Knight, and it gave name to many fruits, such as the Pitmaston Nonpareil Apple, the Pitmaston Orange Nectarine, and several others." Quite a classical residence and very fit to be a near neighbour to St. John's Nursery; and if the ghost of worthy Andrew Knight should ever walk and take a look at the gardens of Pitmaston, I am sure he will walk across the road and much gratify his ghostly, and of course fruit-loving nature, by a look at and a walk through its fifty acres of fruit trees. I walked there in the body, and was charmed when there, and treasure-up the sight as one delightful for ever to my pomological instincts and memory.—WILTSHIRE RECTOR.

ERRATUM.—In part I., p. 369, column second, line twenty-one, there is a clerical error, I mean a printer's error, for I don't own to it. For "a queen-amidst look," read a "Queen-Annish look," so many of the houses belong either to the Queen Anne era, or show symptoms of the style of her reign.—W.R.

SPECULATIONS AS TO THE NATURE AND ORIGIN OF THE POTATO DISEASE.—No. 2.

I WILL now refer to the theory of electricity. The disease has been supposed to have been caused by some peculiar electrical state of the atmosphere. The great objection to this theory is the same as the others—that it will not account for the disease appearing only in 1845, unless it could be shown that some peculiar condition prevailed not before known, which is very improbable. I think that there is no doubt the disease spreads rapidly in damp thundery weather, but that is a different thing from the electrical state of the atmosphere being the origin of it. Some years ago there was a discussion in a contemporary with regard to the connection between the Potato disease and electricity, and a writer calling himself a "LOVER OF NATURE" made the following remarks, which I cannot do better than produce here:—"The theory advanced that the Potato disease is caused by the action of electricity on wet tubers appears to me wholly untenable. That the disease should appear three days after a thunderstorm is no proof that lightning produced it, for it might be a mere coincidence, or it might arise from other attendant circumstances. Your correspondent makes no attempt to support his theory by known facts in the science of electricity; nay, its supporters (for it has many) seem to look upon electricity as another Ariel playing all sorts of odd pranks and setting all laws at defiance. Now this is not the case. All electrical phenomena, including thunderstorms, are subject to certain fixed laws which never vary. For the benefit of your non-scientific readers I will trespass a little on your space to explain the phenomena which take place during such storms. All thunderstorms are produced by one of the following causes:—Either first, by the passage of the electrical fluid from one cloud to another; or second, from the earth to the clouds; or third, from the clouds to the earth. This takes place, however, only under the following circumstances:—The cloud or part of the earth from which it passes must be in a positive state of electricity, and the cloud or part of the earth to which it does pass in a negative state of electricity; the exchange goes on until both are reduced to the same condition. Another important law of electricity is that it moves by conduction—i.e., as some substance, such as metals, water, &c., are conductors it will pass along them; but glass, fur, atmospheric air, &c., being non-conductors almost totally obstruct its passage. As the two first causes of thunderstorms enumerated above cannot influence vegetation we will pass over them and come to the third—the passage of the electric fluid from the clouds to the earth, which takes place in the following manner:—A cloud highly charged with positive electricity being surrounded by air, which is a bad conductor, cannot discharge its excess of electricity till it is in the vicinity of some good conductor, such as a church, a house, a tree, or any other high object, to which it immediately passes (generally in a zig-zag direction, owing to the resistance of the air) and is conducted to the earth, where it is distributed in a thousand different directions. Now, with these few simple though well-established laws before us, what are we to make of the electric theory? The only data advanced in support of it are

—first, it has frequently been observed that the Potato disease made its appearance three days after a thunderstorm if the weather continued wet or damp, but if the weather was fine very little disease appeared. If this is a fact that can be borne out by general observation, it would lead me to suppose that excessive wet after dry hot weather had produced disease and not electricity. Second, the illustration which is quoted in support of the theory is worthy of notice. That the disease attacked a plot of Potatoes in a diagonal direction is to me no illustration whatever, for it appears to be at variance with all the known laws of electrical phenomena. The electrical current could not have been confined within the space described unless there was a more highly conducting medium running in that direction, which is improbable; and if so, under such circumstances it could not have injured the Potatoes." With these remarks I am inclined to agree, and think that electricity has little or nothing to do with the origin of the disease; however that may be, it is certain that the disease is worse in Gloucestershire than it has been for many years, and that there has been a remarkable absence of thunderstorms.

I will then for the present abandon the idea of electricity as having anything to do with the origin of the disease, and will endeavour to start another theory, which if proved would satisfy all the conditions required, and explain where the disease originated, how it came here, and why it did not show itself before the year 1845. But in order properly to support my theory it is necessary for me to give what some of your readers may think rather a too lengthy description of several of the new plants, insects, and diseases which have lately appeared in this country, the origin of some of which is known; for it is only by practically investigating all the known facts relating to the new insects and other diseases that have of late years been introduced into this country, most of which seem to point to a common origin, that we can hope to advance our knowledge of the subject.

Some years ago a strange weed appeared in our brooks and rivers—the *Anacharis canadensis*. It flourished and spread amazingly and became a regular nuisance, almost filling up the watercourses, and has continued so down to the present time. I have seen various ways mentioned to account for its introduction to this country. One report said that a *savant* grew it in a pond in his garden for experimental purposes, and it spread from thence to the neighbouring streams. But however it got here, there is no doubt whatever as to its origin. The plant is well known. Now, if this had only been a fungus or other small plant-growth not well known or observed, how very difficult it would have been for us to account for its presence and sudden appearance with us.

Again: About the year 1845 a disease very mysteriously appeared which attacked the Vines. It was a species of fungus called the *Oidium Tuckeri*. It was very prevalent in this country, and spread over a great part of the Continent. Mr. Don, a Portuguese merchant, wrote a pamphlet on the Vine fungus, with suggestions as to the remedy. After speaking of the devastating nature of the disease he goes on to say, "There are several circumstances which lead to the proximate cause of this so-called disease, is to be found in some abnormal condition of the atmosphere, in conjunction with a diminished power of resistance from other causes in the Vine itself." He then proceeds to show that the disease was derived from the atmosphere, because he managed to preserve his own Grapes by brushing the fungus off with a camel's-hair pencil; but this, of course, only showed that it passed through the atmosphere, not that it was caused by it. He then attributes the commencement of the disease in Portugal to the fact that the soil was not properly cultivated in the three or four years ending in 1852, and that there was not sufficient rain to cause the young stems to decay, which, by the way, were the only manurial dressing the Vines had. He then further says, "In 1851 the rain came down in October and lasted with little intermission until May, 1852, of which year the spring was cold, wet, and late. In May vegetation became rank and luxuriant; the Vines produced branches of twice or thrice their usual length, and formed leaves of enormous size, and these Vines were not sufficiently pruned, and so the Vine was well prepared in the following year to become an easy prey to the *Oidium Tuckeri*, which, unlike other fungi except mildew, which it resembles, is not so ceremonious as to wait until its victim is dead and decaying before making its attack, but appears on the contrary to fasten on its living juices with a pertinacity so great that the weakened resistance of the Vines generally has not been able to shake it off. In

cold and damp localities, where vegetation was most rank, it appears to have revelled in excess."

On reading the above one would almost think he was writing on the subject of the Potato disease, and the *Peronospora infestans* particularly, as he refers to the electrical state of the atmosphere; but it is not of thunderstorms and the highly electrical state of the atmosphere that he complains, but of the entire absence of them. This pamphlet was, no doubt, highly interesting and instructive at the time, but the writer fell into several errors. The disease did not originate in Portugal as he thought. It was known in France several years before it appeared there. According to Mr. Berkeley, a good authority, this Vine disease first appeared in East Kent in 1845, and was in 1847 recognised as a parasitic fungus to which the name of *Oidium Tuckeri* was given, after the cultivator who first studied its growth. The origin of this disease as far as I know has never been satisfactorily made out, but I suspect its American origin, for although the disease was carried to the United States with exported Vines, all the varieties of the *Vitis Labrusca*, from which all the better quality of the American Vines have sprung, whether in their own or foreign countries, were remarkably exempt. However that may be, it is a consolation to us to know that a remedy was found, and that if the leaves of the Vine were well damped and then powdered over with sulphur the *Oidium Tuckeri* was subdued or kept within reasonable bounds.—AMATEUR, Cirencester.

FORCING ASPARAGUS—ARTIFICIAL MANURES.

ALTHOUGH artificial manures may be applied with great advantage to Asparagus when growing naturally in the beds I do not think they are much benefit to it in forcing. We cut a good dish of Asparagus on the 17th inst. from a dungbed under glass. After the roots were put in and covered with soil a quantity of nitrate of soda was spread over one end of the bed. The same quantity of salts of potash was sprinkled over the other end, and the centre part was left without any artificial dressing. The produce of this part is just as plentiful and strong as either of the ends. If it is not an unchemical way of expressing it, I think the Asparagus grows in too short a time when forced for the manure to be utilised to any great extent, and therefore it is unnecessary to apply it.—J. MUIR, Margam.

THE DARLEY DALE NURSERIES.

THIS year the Fates sent me to Derbyshire, and my wanderings took me to Darley Dale, famous for its magnificent churchyard Yews—probably the finest in England—and so it came about that I found myself a visitor to the Darley Dale Nurseries. I went to Darley Dale expecting to find a small country nursery; for was I not far away from the centres of trade? I had for some days previous been a sojourner among the pleasant dales of Derbyshire, and had often spent hours without seeing a single fellow creature; so somehow I fancied as I neared my destination I should find a small place where possibly I might see some few things more or less cultivated, and also, perhaps, nothing worth recording. I gained admission to the nursery, not through the main entrance, but through one of those quaint narrow openings between two upright stones oddly enough called "stiles" in Stonyshire, and soon found myself among evidences that there was more to be seen at Darley Dale than I had counted on. There were all about me signs of great activity. I saw the squat propagating frames, so familiar in our nursery grounds, in large numbers and in every direction. I braced up my expectations to a higher pitch as I gradually neared the house and offices. It was not long before I made my way to Mr. Smith's house, a well-fashioned old stone edifice, the walls of which are plentifully adorned with suitable vegetation. The preliminaries over, I was introduced to Mr. Herbert Smith, who courteously undertook to be my guide, and without loss of time we set off on an expedition of sight-seeing. My companion informed me that he would first take me to one of their nurseries called "Siberia" some two miles away, and situated on some table land 1000 feet above sea level, to reach which we had to walk along, or rather climb up, the road leading from Newhaven through Darley to Chesterfield. But though the road was steep the surroundings were most charming, and were rendered doubly so by the rich autumnal tints which prevailed everywhere.

I learnt that the Darley Dale Nurseries consist of some 140 acres, lying about in various portions of the dale and

neighbouring heights, and that some 26 additional acres are about to be added. "Siberia" was at length reached, and there I found on a most exposed spot 30 acres of excellent peat land, and covered with Rhododendrons, Heaths, Menziesias, Andromedas, Ledums, Azaleas, Kalmias, and Conifers—all in robust health, for puny plants would never stand wintering in such an exposed and elevated situation. From this nursery we went to another and another—in all nine or ten, each being the home of plants happy and thriving in the appropriate variety of soil, climate, and local circumstances.

What struck me most at Siberia after the immense breadths of Rhododendrons was the enormous quantity of hardy Heaths. I do not exaggerate when I say there are many acres of them. Nor let it be supposed that there are only some half-dozen sorts; there are at least fifty, many being most distinct and ornamental. Thus, of *Erica tetralix* there are ten kinds—the cross-leaved white, the woolly-leaved, Mackay's crimson, the Cornish, the ordinary white form, the large-flowered, and the red. But *Erica vulgaris* outnumbers this kind considerably, there being twenty sorts grown, of which Hammond's white, the rigid, Allport's (crimson), the golden-leaved, and Foxii, a very pigmy among Heaths, most interested me. There, too, in vast quantities is *Erica carnea*, and a white form shortly to be distributed, and which seems to be as useful and ornamental as the well-known flesh-coloured variety. From what I saw I am convinced that hardy Heaths are not known half as much as they deserve to be.

The Rhododendrons, from tiny seedlings scarcely visible up to grand well-grown specimens, including a magnificent assortment of the best named varieties, were something to remember, and I was informed the stock of these plants numbered over five millions! also that of hardy Azaleas there were 200,000, and of Heaths 150,000. These numbers are not guesses, but are actual figures from the stock books of the business. A very curious and interesting piece of information is afforded by the same books as to the popularity or demand for certain plants. Thus, I found there was a stock of 10,000 *Picea nobilis*, while of the handsome, varied, cheap, and useful *Cupressus Lawsoniana* the numbers run up to 50,000. Of Laurels there are 100,000, of Box trees 20,000, of Limes 10,000, and of Mountain Ashes 200,000. These statistics might be indefinitely added to, but enough has been given to illustrate the varying demand and the vigorous efforts made to meet it in what to me is the sweetest of the Derbyshire dales.

I saw some very pretty forms of *Cotoneasters*. *Simmondsii* is, of course, in abundance, but *C. rupestris* is to my thinking vastly superior; while one variety, the name of which I forget, seems an admirable substitute for the richly-berried *Pyraeantha*.

Of berried plants, of which most of us are fond, why are not *Pernettyas* more generally grown? At Darley Dale I saw plants rosy pink in hue from the masses of fruit borne by them. They are dwarf, evergreen, profusely covered with berries, and handsome in the extreme when in flower. A plant which I always thought to be *P. mucronata* Mr. Smith told me was *P. speciosa*. Then, again, for those who desire a most useful berried plant for cover, what is there better than *Gaultheria Shallon*? It is most fruitful, very cheap, and handsome withal.

I find I have exhausted my space and left no room to dilate on many other subjects of interest. I should like to tell of the glorious collection of hardy Ferns, which is a pet speciality of Mr. Smith, and could fill a column with brief references to noteworthy Conifers which I saw in prime condition. I could also explain a phenomenon of the cottage gardens of the district, in which I saw superior vegetables, handsome shrubs, and pretty flowers. I may, perhaps, on a future occasion, if the Editors will allow me, have something more to say about what I saw in and about Darley Dale.—
PHILANTHES.

[By all means say more.—EDS.]

SCOTTISH HORTICULTURAL ASSOCIATION.

THE ordinary monthly meeting of this Association was held in 5, St. Andrew Square, on Tuesday evening, the 6th of November. There were about ninety members present. The President occupied the chair. After the reading of the minutes fifteen new members were duly elected, which makes the membership now over two hundred.

Mr. Robertson Munro, Abercorn Nursery, Edinburgh, read an able and interesting paper on "Hybridisation," being a continuation of a former paper on the same subject. He gave details of his own experience in hybridising and cross-breeding,

and also referred in general terms to Mr. Darwin's views on the subject. An animated discussion followed on the opinions advanced by the essayist. In illustration of his paper Mr. Munro exhibited specimens of various hybrids, especially *Passifloras*, the result of his own manipulation. The thanks of the meeting were awarded to him for his paper.

The Chairman announced that Mr. John Downie, of Messrs. Downie & Laird, had placed at the disposal of the Association the sum of £5 to be divided into four prizes for competition by journeymen gardeners, members of the Association, for the best original plan of a flower garden. The meeting awarded a hearty vote of thanks to Mr. Downie for his handsome donation, and remitted the matter to the Council, who have arranged that all plans be sent to the Secretary, under motto, by the 1st of February, 1878, each accompanied by a sealed envelope containing the competitor's name and address.

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

DRACENA REFLEXA. *Nat. ord.*, Liliaceæ. *Linn.*, Hexandria Monogynia.—"This is the typical form of the Bois de Chandelle of Mauritius. The plant is spread widely through tropical Africa and runs into numerous varieties. It has long been known in cultivation. It may be known from the other cultivated *Dracenas* with lanceolate sessile leaves by the looser disposition of its leaves upon the stem and by its solitary flowers, with a very short perianth tube. *D. cernua* of Jacquin is a variety of the same plant, with a drooping panicle, longer pedicels, and leaves edged with red. Our specimen flowered some time ago in the Palm house at Kew. It is an erect shrub, with slender branches, reaching a height of from 6 to 20 feet."—(*Bot. Mag.*, t. 6327.)

VANDA CÆRULESCENS var. *BOXALLII*. *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—"This lovely form of *Vanda cærulescens* was figured from a specimen flowered by Messrs. Low of Clapton last June. It is merely a horticultural form of the type species, presenting no tangible botanical difference entitling it to rank as a variety. Those specimens in which the outer perianth becomes pure white must be especially charming. In the flowers figured they are a very pale violet."—(*Ibid.*, t. 6328.)

ECHEMEA (*CHEVALLIERIA*) *VEITCHII*. *Nat. ord.*, Bromeliaceæ. *Linn.*, Hexandria Monogynia.—"This is a very fine new Bromeliad, discovered by Gustave Wallis in New Grenada in 1874, and introduced this present year into cultivation by Messrs. Veitch. It is closely allied to the Costa-rican *Echeema Mariae* reginæ of Wendland, and belongs to the section *Chevalliera*, which was proposed as a genus by Gaudichaud (*Atlas, Voy. de la Bonite*, tab. 61-62), and has been maintained as such by Grisebach and Morren."—(*Ibid.*, t. 6329.)

CALCEOLARIA LOBATA. *Nat. ord.*, Scrophulariaceæ. *Linn.*, Diandria Monogynia.—"We are indebted to Messrs. Veitch for this very interesting addition to our cultivated species of *Calceolaria*. It is a dense-growing herb from 7 or 8 inches to a foot or more in height, flowering profusely in the autumn. The corolla is pale yellow with deep brown-purple spots towards the base of the lower lip, which is remarkably long and folded back upon itself about the middle."—(*Ibid.*, t. 6330.)

BOLLEA LALINDEI. *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—"For the discovery of this beautiful species we are indebted to Mr. Lalinde of Medellin. A fresh flower was furnished to Dr. Reichenbach by Messrs. Veitch in 1874. Our figure is from a specimen flowered by Messrs. Williams of Holloway last August, which differs materially in colour from the plant described by Reichenbach. In the latter the flower is of a beautiful bright violet with the tip of the upper sepal green, the lower half of the lower sepals brownish purple; the lip deep orange and the column deep purplish. Notwithstanding these great differences in colouration, there is no doubt as to the agreement of the specimen here figured with Reichenbach's specific description in the diagnostic characters taken from the peculiar form of the lip, and the great breadth of the column which completely arches over the plaited palate."—(*Ibid.*, t. 6331.)

ROSES IN NOVEMBER.

IT is many years since we have had such a fine autumn as we have had this year. Roses were beautiful here until November 7th, when I cut a bouquet of flowers which were equal to summer blooms, the following being the finest:—Dupuy-Jamain, Victor Verdier, Duke of Edinburgh, Baronne de Rothschild, Charles Lefebvre, Niphotos, and last—that best of

all—old Gloire de Dijon, which seems just now to be all in its glory, being covered with both buds and flowers. But, ere this is posted, the wind and rain have brought the reign of the Roses to an end.—T. J. HARRISON, *Roselee Gardens, Chester.*

SCHMIDT'S BIGARREAU CHERRY.

FIVE years ago I obtained from Sawbridgeworth a collection of Cherries, and one of the finest of them is the variety above named. The tree has proved a free bearer, and the fruit is extremely fine. I can recommend this Cherry to those who have it not and who are contemplating adding to their collections, and I apprehend that I cannot do so at a better time than on the eve of the planting season. It makes a noble dish for the dessert table, and is valuable for exhibition purposes. The fruit is of a large size, round, and somewhat oblate. The skin is of a deep black colour, and there is a large style mark

the Escallonias, especially for walls or covering steep banks. The best of these is *E. macrantha* with its glossy shining leaves and pink flowers. *E. rubra* is also very pretty, but not equal to the foregoing. *Garrya elliptica* is also suitable for planting in similar situations, and when covered with its graceful drooping catkins is very pretty.

Hollies, both green and variegated, succeed very well. *Laurustinus*, an old favourite, is also suitable. Myrtles I have seen growing and flowering well only 200 yards from the sea; and is it not a treat to see these beautiful shrubs growing and flowering in the open ground? Sweet Bay also succeeds well, and so does the Oval-leaved Privet. Another shrub that grows very fast is the Tamarisk; planted on the outside of some shrubberies next the sea its growth was remarkable. *Aucuba japonica* and the new male varieties succeed, also the *Arbutus*.

Among deciduous shrubs foremost stands the *Hydrangea*, which along the coast produces large umbels of beautiful blue

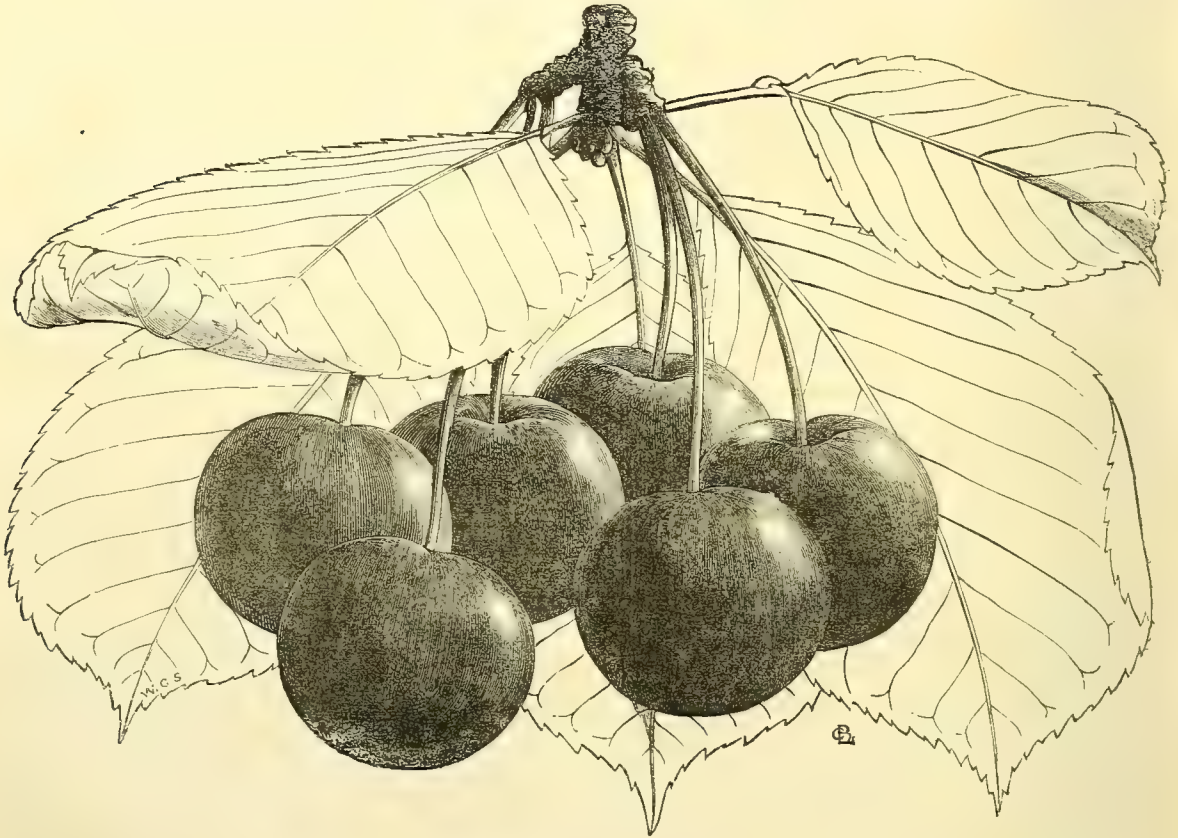


Fig. 78.—SCHMIDT'S BIGARREAU CHERRY.

on the apex. The stalk is stout, 2 inches long, and rather deeply inserted; flesh dark, tender, and very juicy, with a fine flavour. The stone is very small for the size of the fruit.—A. N. G.

We are able to submit an illustration of this fine Cherry, which was received from the Société Van Mons by Mr. Rivers. It is the largest of all the Bigarreau Cherries.

SEASIDE SHRUBS.

AMONG the few shrubs that will stand the seaside winds with impunity and flourish luxuriantly along the west coast of Wales the *Euonymus* takes high rank. Not only do they grow rapidly in the full face of the furious westerly gales, but become large bushes in very exposed situations, which they refuse to do more inland except in very sheltered places. The best sorts that I have found succeed along this coast are *Euonymus japonicus argenteus*, *E. japonicus aureus*, and *E. japonicus radicans*; the latter, being of dwarf growth, is suitable for planting near the margin of shrubberies.

Other things that do capitally well along this west coast are

flowers; also *Buddlea globosa*, Elders of sorts, *Deutzia scabra*, Guelder Rose, Fuchsias of sorts—such Fuchsias! 7 to 10 feet high and as much through—and *Leycesteria formosa*.

I will next send an account of the forest trees that succeed best on this coast. My excuse for sending you these notes is the bareness in beautiful shrubs of many gardens along the seacoast, which I think is more owing to not knowing what to plant than from want of will on the part of owners of gardens.

—GEORGE COOKE, *Nannan Park Gardens, North Wales.*

NOTES FROM CORNISH GARDENS.

MOUNT EDGCUMBE,

THE SEAT OF THE EARL OF MOUNT EDGCUMBE.

"THE most striking feature in a general view of Plymouth Sound is the park of Mount Edgcumbe, the seat of the noble family of that name, which, comprising the lofty hills on the western slope, presents a varied expanse of foliage broken by tall red-stemmed Pine trees descending to the water's edge." Thus saith Murray: and as I had my first sight of those lofty hills of such commanding aspect, and withal so picturesque, it

seemed quite in the ordinary course of things to go to them from Pentillie, as I was about to do.

Pleasant was the drive "o'er hill and dale" to the steam-boat pier at Saltash through a well-wooded country, and yet so broken that choice bits of scenery kept coming into view; and near Saltash the estuary of the Tamar, the Hamoaze and the distant Sound, all brightness and life, opened out before us. No time was there, however, to linger; on past the quaint old houses of Saltash, all jumbled together in the oddest manner imaginable, down to the pier in the very nick of time. "On board with you, cast off, go on ahead!" all in a breath, and away steamed the boat past the mighty viaduct rising 170 feet above the water, and nearly half a mile in length, down the Hamoaze, among grim war ships—ancient "liners" and modern ironclads; a training ship with its swarming population of nine hundred boys, the huge "Enchantress" at torpedo practice, the equally huge guardships apparently

equally teeming with life. Yonder is a cupola ship sneaking away up Millbrook Creek as if ashamed to show its ugly form. That red-painted vessel moored close in shore away from all other ships is a powder tender; no lights allowed on board. What a dismal existence for those in charge of her at this season of the year with thirteen or fourteen hours of darkness! Sweet be their sleep! On past the arsenal, with its huge piles of shot and shell, to the pier at Devonport. On land once more, but not to stay. "Boat ahoy for Mount Edgecumbe!" and we are off again amongst dozens of other boats shooting through the water in every direction past more ships, and in a few minutes are at our destination.

Close by the pier are the park gates. We enter, and as we proceed to the garden entrance the house is visible at the end of a wide avenue (fig. 79), which from the proximity of numerous other trees has a good deal of the effect of a glade. Wherever trees stand out singly here they are frequently ex-



fig. 79.—MOUNT EDGECUMBE.

posed to the fury of severe gales, to which some of the trees in this avenue have succumbed, and have been replaced by young ones that were evidently not thriving. No process in gardening can be more unsatisfactory than this patching an old avenue; it never answers, the young trees after the first season being usually in a state of semi-starvation, for the greedy roots of the old trees rush into the newly-stirred soil and rob it of all nutriment. It is better, therefore, to accept the decay of the old trees as a stern and undeniable fact, doing all that is possible to protect them from the baneful effects of storms by planting sheltering belts and clumps on the windward side.

The pleasure grounds run down to the water's edge, and the entrance leads straight into an Italian garden in exquisite keeping with numerous walks, all converging to a central fountain, each walk having an avenue of magnificent Orange trees in tubs. The average height of these wonderful trees must be quite 15 feet, and their heads are of a proportionate diameter. The bright green hue of the glistening foliage betokened perfect health, as did also the hundreds of fruit with which every tree was heavily laden. The orangery in which the trees are wintered is a fine building overlooking the garden and forming one of its boundaries—a semicircular belt of shrubs sweeping around the other sides. The appearance of this garden is novel, striking, and very pleasant, the extraordinary size and healthy condition of the Orange trees altogether robbing it of that air

of formality which is usually so offensive in less successful attempts at imitations of the Italian style of gardening.

From the Italian garden a walk takes us to two other enclosures, termed the French and English gardens. While avoiding tedious details I may note certain objects of interest which they contain. Several excellent examples of *Chamærops Fortunei* are planted out in permanent positions, and are evidently thriving. A *Catalpa* in full bloom was very attractive, not only for its blossom but also for its large size, the stem, measuring about 8 feet in circumference, bearing a very large spreading head. Here too was a grand old Cedar of Lebanon; a Holly upwards of 50 feet high laden with berries, and quite worthy of its position; a healthy *Salisburia adiantifolia* about 20 feet high; *Osmanthus ilicifolium argenteum variegatum*, 7 feet high, quite the finest silvery *Osmanthus* I have seen; several magnificent old Cork trees; fine examples of *Rhododendron arboreum*, the scarlet tree species from Nepal and others; a huge Bamboo, which had flowered and died like so many others which I saw in different parts of Cornwall. All of them were dead, but I hope the deplorable fact will not hinder others from being planted, for we have no substitute—nothing like it in form, size, or beauty. This is the Himalayan species *Bambusa falcata*, exceeding in size all the Chinese and Japanese species that have been tried in this country. The situation was evidently a favourable one, for the

slender tapering stems of the Bamboo were 20 feet in height—some standing almost erect, others bending gracefully outwards, all having numerous branchlets pendant with heavy panicles of seed. Other fine trees and shrubs might be enumerated, for the gardens are rich in them, and they impart tone and character nothing else can do, and I may be pardoned for not dwelling upon such trivial matters as flower beds and bedding plants—all very good in their way. Rather would I seek to point a lesson here by showing that while there can be only one Mount Edgumbe, yet in every garden more may be done to establish permanently such objects of perennial-growing beauty as abound here—not a crowd, but a few well chosen, well placed, and in keeping with the position and extent of the garden.

I hope next to take the reader through the more picturesque parts of the gardens and woods, and to explain certain other useful lessons worthy of general application.—EDWARD LUCKHURST.

(To be continued.)

CHRYSANTHEMUMS AT SLOUGH.

DURING the last few years some examples of this beautiful flower have found their way from the Royal Nurseries to the exhibitions at South Kensington. This year no good opportunity has been afforded to exhibit Chrysanthemums, and Mr. Turner wisely decided to make an exhibition at his own nursery. As a general rule the flowers are late this season, and some of the exhibitions have had to be postponed. Now, however, the flowers at Slough are at their best, yet the exhibition will be continued for some considerable time, as the plan adopted here is different from that we used to see either at Mr. Salter's nursery, Hammersmith, or at Stoke Newington by Mr. Forsyth. At both those places the whole, or nearly the whole, collection was in flower at one time, except in so far as some sorts were naturally earlier than others, and, as a rule, but very few varieties were in flower at Christmas, and those not of the sorts most valuable for cutting.

The accommodation at Slough for such plants is very much greater than that of the celebrated growers mentioned above, and not the least valuable is a long house facing north, where the plants are yet in bud and promise to make a grand display after those in flower have been removed from the show house. This is a span-roofed structure 100 feet long and 14 feet wide, entirely filled with plants in flower. The arrangement is exceedingly effective. The plants are in such a position that the flowers are just under the eyes of the visitors, so that they can be examined without any inconvenience—a great advantage this, as we have seen the stems grown so tall that it was necessary to mount a short ladder to minutely examine the flowers.

Mr. Turner grows his plants in 6, 7, and 8-inch pots, and they are not grown too strongly, but strong enough to produce abundance of useful flowers either for decorative purposes, to cut for bouquets, or to place in glasses to decorate rooms. His object has evidently been to make an effective exhibition, and he has succeeded. The largest proportion of the plants have been grown on the natural system without any attempt at artificial training. And after all the most natural way is the best; it is more pleasing and better appreciated by the general public than is formal training. Better half a dozen good flowers than half a hundred flowered out of character either from bad training or unskilful culture.

All the new varieties are here, but—and we are sorry there should be a "but" in the case—evidently the mantle of Mr. John Salter has fallen on no one. What a treat it was to go to Hammersmith and see the new varieties intended to be sent out the following season, especially after the Japanese came in, when there used to be about a dozen distinct varieties annually. Anything new amongst the large-flowered Chinese sorts now seem merely to be sports of a different colour from well-known sorts. Mrs. George Rundle, for instance, is grown here by the hundred, and because it is grown everywhere so extensively we are the more likely to obtain sports from it. The first sport, a pale yellow or sulphur flower, was named George Glenny, and from this was obtained a variety of a deep yellow colour, which was named Mrs. Dixon. These three sorts are well grown here. There is a primrose-coloured sport from Empress of India, which will be very popular, as it is a good sport from the largest and purest white in existence. The best white flowers beside the above are White Globe, Isabella Bott, Eve, White Venus, and a very late-flowering variety named Mrs. Wood. The best amongst yellow sorts are Jardin des

Plantes, a superb flower, raised probably thirty years ago, but not yet equalled; we would place Golden Beverley next to it. Golden Dr. Breck is also a fine golden yellow, and when well grown Iona may be placed in the highest position. Aurea multiflora, though not large, is the neatest flower in cultivation. Annie Salter is what is termed a reflexed flower, but it is clear yellow and makes a handsome specimen plant. There are some grand flowers of the various shades of pink and rose colours. One of the best is Princess of Teck, a noble flower, bluish tinged with rose, the petals broad and beautifully incurved. It is one of the more recent of Mr. Salter's flowers, but was sent out a year or two ago under another name. Pink Perfection, syn. Miss Mary Morgan, ought to be in every collection. Lady Hardinge, Her Majesty, Hero of Stoke Newington, Princess Beatrice, Princess of Wales, Lady Slade, and Venus are the cream of these colours.

More good flowers than we already possess are wanted in the purple and rose-crimson shades of colour. The best at present in cultivation are Prince Alfred, a noble flower, but the outer petals soon decay; Prince of Wales, and Dr. Sharpe. The last has beautifully reflexed flowers and makes a handsome specimen. Amongst Indian reds or chestnut reds there are John Salter (this sort ought to be placed near the glass, else the flowers come loose, when well done it is the best in this colour); Mr. Gladstone, dark red, the reverse of the petals looking as if they were polished; Golden Eagle, General Bainbridge, General Slade, Sam Weller, St. Patrick, and Antonelli (the last named, though a perfectly formed flower, is not large enough unless very well grown); Comte de Morny is a useful decorative flower we had not seen before; Caractacus is white tinged with pink; Triomphe de Nord a dull crimson-coloured flower.

In the Japanese class there are a few good new flowers, notably a golden yellow, earlier to bloom than Grandiflorum and equal to it, named Fulton. To Kio is a brilliant crimson scarlet flower, the reverse of the petals orange. The best of the older Japanese sorts are Bronze Dragon, Duchess of Edinburgh, a peculiar rosy lilac-coloured flower, a hybrid from the Anemone section; Elaine, Fair Maid of Guernsey, James Salter, very early; Purpureum album, Red Dragon, The Cosack, and The Sultan.

The small Chusan Daisy or Pompons are very pretty and useful for cut flowers. Amongst the best and most distinct are Bob, Cedo Nulli, and the golden and lilac varieties of it; Dick Turpin, General Canrobert, Marabout, Mdle. Marthe, a very fine pure white-flowered variety; Mr. Astie, Mustapha, St. Michael, St. Thais, and Salamon. All the above, besides having the best flowers, are best adapted for forming specimens.

An interesting feature in Mr. Turner's collection is about 150 standards of the large-flowered and Pompon varieties. The stems are about a yard high; each head, which is semi-globular in form, is composed of three or four varieties, distinct in colour. They were grafted on after the stem had attained the desired height. The operation is easily performed; hardly one of the grafts missed taking, and they were merely tied on with a strip of matting, the plants at the time being in a greenhouse kept rather close. Exhibitors might take a note of this, and try to graft a difficult sort on a free-growing standard.

In looking through the other houses there is something to interest every class of gardener. The immense stock of Carnations and Picotees is rapidly being dispersed over the country, and the plants seem to be thoroughly well rooted. Auriculas are in great demand; indeed, the supply is quite inadequate to meet it—a sure sign of the increasing taste for this old favourite. Pinks a year or two ago were getting into a weak state, and growers could scarcely obtain plants; now the supply seems equal to the demand for them.

Looking through the greenhouses we noted a few plants that would be useful for supplying cut flowers. There were several hundred 5 and 6-inch pots of a very pretty Scrophulariaceous plant with pale blue flowers named Browallia elata. It is a Peruvian species, but succeeds well in a greenhouse temperature. In juxtaposition to it were many small pots containing nicely-grown plants of Salvia splendens. Its beautiful bright scarlet flowers were very effective. Amongst Bouvardias the most useful seems to be B. Hogarth and the white or bluish sport from it, B. Vreelandii.

Tree Carnations are in thousands, and although they are looked upon with disdain by the genuine florist they are justly esteemed by the general public. We noted Osman Pasha as the best in its class. It fairly beats Proserpine and La Grenade. Its rich crimson scarlet flowers are superbly finished.

There is also a very free-flowering scarlet variety which will speedily make a mark for market purposes when it can be obtained in quantity. Dwarf plants in 6-inch pots were producing about two dozen of flowers. It seems to be of French extraction, and is named *A. Alegatiere*. Sir Garnet Wolseley is a distinct flower, and very pretty indeed.

There was just time to look at the specimen Roses in pots. There is the gigantic specimen of Paul Perras, the conqueror in many well-contested fields. Next to it a marvellous example of *Céline Forestier* and all the other specimens that brought their owner so much renown last summer. To prevent injury from furious tempests they are moored with strong twine from every point of the compass to a framework of wood. Good order prevails in every department of these celebrated nurseries.—VISITOR.

CHRYSANTHEMUM SHOWS.

NOWHERE are Chrysanthemums grown better than in the metropolitan district, and the exhibitions of them bear testimony to the skill of the cultivators and to the superlative value of this flower for autumn decoration. Chrysanthemum shows not only stimulate to superior cultivation in their several districts, but encourage the higher culture of the flower generally; for a record, however brief, of success affords an incentive for other growers, and British gardeners, as a rule, do not like being behind their neighbours. The shows also afford opportunities for comparing the merits of different varieties, and it may be taken as a tolerably sure guide those varieties which are mentioned the most frequently are the best not for exhibition only, but for home decorative purposes. The dates of several shows were fully too early for this late Chrysanthemum season, for we have noticed many plants with unexpanded flowers, and others which give evidence of having been "forced," and on this account some exhibitions have not been so good as in previous years.

BRIXTON, STREATHAM, AND CLAPHAM.

The autumn Exhibition of this Society was held on the 14th and 15th inst. Although not quite up to the average some very good specimen plants and cut blooms were exhibited. In the class for six large-flowering plants Mr. W. Hall, gardener to S. Stevens, Esq., Upper Tulse Hill, well deserved the first prize awarded to him for exceedingly neat and well-bloomed plants of Mrs. G. Rundle, Mr. Brunlees, Lady Hardinge, Faust, Guernsey Nugget, and Mrs. Dixon: this last-named plant was a perfect gem, having over sixty fully expanded good blooms. Mr. John Herrington, Grove Road, Clapham Park, was placed second, and Mr. Green, gardener to F. Whitlock, Esq., third. In the class for three specimen plants Mr. Hall was again to the front, closely followed by Mr. Herrington and Mr. Livermore, who were placed second and third respectively; and for a single specimen plant Mr. Livermore gained the first prize with Mrs. Dixon, Mr. Herrington the second with Lady Talfourd, and Mr. Wells the third with Mr. G. Glenny.

Pompons were tolerably well represented both as pyramids and dwarf-trained plants. Mr. W. Hall was placed first for six dwarf-trained plants, which were a beautiful evenly grown collection, but required about another ten days to bring them to perfection. Mr. Hall also won the first prize for three standards with Calliope, Antonius, and Bob. In this class Mr. Wells was placed second and Mr. Livermore third. In the classes for six and three pyramids Mr. Livermore was awarded the two first prizes; and for three plants of Pompons not pyramids Mr. Lee, gardener to T. King, Esq., Tulse Hill, and Mr. Herrington were first and second respectively.

For twenty-four cut blooms, incurved, distinct, Mr. J. Holmes, gardener to J. Storey, Esq., Nightingale Lane, and Mr. W. Hall were awarded equal first prizes. The best blooms were Prince of Wales, Venus, Guernsey Nugget, Queen of England, Prince Alfred, John Salter, Jardin des Plantes, White Globe, General Slade, Isabella Botr, Plenipo, Cherub, Mr. Brunlees, Princess Beatrice, Empress of India, Antonelli, Golden Beverley, Barbara, Golden Eagle, Beverley, Rev. J. Dix, Mr. Haliburton, and Mrs. Dixon. Mr. G. Ottaway, gardener to T. Hepburn, Esq., was placed second with a very even stand, and Mr. Livermore third; and in the class for twelve cut blooms Mr. Lee, gardener to T. King, Esq., was awarded the first prize for a very fine collection, consisting of Princess Alexandra, Prince Alfred, Princess of Wales, Nil Desperandum, Hero of Stoke Newington, Mr. Brunlees, Mrs. G. Rundle, Lady Talfourd, Mrs. Haliburton, Rev. J. Dix, Mrs. Dixon, and Baron Beust. Equal second prizes went to Mr. W. Hall and Mr. Ottaway, and Mr. J. Holmes was third. In the class for six blooms Mr. Ottaway was first with very fine blooms of Queen of England, Prince Alfred, John Salter, Princess of Wales, Jardin des Plantes, and Lady Hardinge. For twelve large Anemone blooms, eight varieties, Mr.

Ottaway was again placed first with Lady Margaret, Empress, George Sand, Gluck, Fleur de Marie, Mrs. Pethers, Prince of Anemones, and Louis Bonamy. Mr. W. Staplehurst, gardener to Mrs. H. Walmsly, Clapham Park, was awarded the second prize, the third prize going to Mr. Livermore; and for Anemone Pompons Mr. Livermore was a good first with Antonius, Marie Stuart, Calliope, Mr. Astie, Madame Montels, Firefly, Perle, Regulus, Marguerite de Wildemar, Rouge Laine, and Aglaia; Mr. Ottaway and Mr. Wells following in the order named. Only two collections of twelve distinct blooms of Japanese were shown, Mr. W. Fisk, gardener to R. Balme, Esq., and Mr. Lee sharing the honours between them. Mr. Fisk had good blooms of James Salter, Gloire de Toulouse, Fair Maid of Guernsey, Magnum Bonum, Garnet, The Daimio, Elaine, Red Dragon, Apollo, Cry Kang, Asteroid, and Nagasaki Violet. For the encouragement of young beginners this Society has a "maiden" class for twelve cut blooms, incurved varieties, which brought three very fair collections, Messrs. Young, Gates, and Horsham sharing the honours in the order here named.

Orchids were well represented considering the lateness of the season. In the class for three plants Mr. Wright, gardener to H. Voss, Esq., Streatham, was placed first with *Phaius maculatus*, *Dendrobium formosum giganteum*, and *Oncidium trigynum*. Mr. Young and Mr. West were awarded equal second prizes, and Mr. Cherry third.

Sieve and greenhouse plants together with fine-foliage and Ferns were included in the competition, the principal prize-takers being Messrs. Wright, Kenlar, Hall, Dorset, Fisk, and Davey. Primulas were also shown by Messrs. Fullbrook, Hall, and Rockell, and the prizes were awarded in the order named.

Both Apples and Pears were plentifully shown by Messrs. Rooney, Plumbridge, Gates, Clarke, and Cherry. Some good Grapes were also exhibited, Mr. Ottaway gaining first honours for three bunches of black Grapes with Black Alicante, and Mr. Wells was first for Muscat of Alexandria. Mr. Peed, Roupell Park Nurseries, sent some very fine and well-finished bunches of Alicante, Barbarossa, and Trebbiano Grapes, not for competition, to which a special certificate was awarded; and Mr. Stevenson, Sydenham Hill, had two bunches of Black Alicante weighing 9½ lbs., also some very excellent Black Hamburgs.

Vegetables were extensively shown, and the collection from Mr. Livermore was deserving of special notice, comprising as it did nearly every production to be raised in a garden. Mr. Wright was here placed second, and Messrs. Horsham and Cocks equal thirds. In the class for eight varieties Mr. Young, Mr. Davey, and Mr. Clark were first, second, and third respectively.

SOUTHAMPTON.

The autumn Exhibition was held on the 16th inst., and was very good and crowded with visitors. Fruit and vegetables were extensively shown and in excellent condition, the competition being very keen. Messrs. Jackson & Sons of Kingston-on-Thames, were awarded the first prize for a collection of eighteen plants of Chrysanthemums, and also a first prize for twenty-four cut blooms; and Mr. Hinnell, gardener to F. Davis, Esq., Anglesea House, Surbiton, was worthily awarded the first prize in the open class for twenty-four cut blooms. Mr. Hinnell's collection were a grand lot. The Show was a great success.

EALING.

The Chrysanthemum Show was held in the school-room on the 17th inst., but was not equal to that of last year. Mr. Hart, gardener to — Nye, Esq., took the lion's share of the prizes in the gardeners' class, and Mr. Lang (an amateur) in the open classes. Messrs. C. Lee & Sons, of Hammersmith and Ealing, sent a very fine collection; also Mr. Smith of Ealing. There was a very good attendance of visitors during the afternoon and evening, which afforded sufficient evidence of the attractiveness of this popular autumn flower.

WALTON-ON-THAMES.

The Show was held on the 15th inst. in the school-room and an adjoining marquee, under the auspices of the Walton, Weybridge, Otlands, and Hersham Horticultural Society, of which H. Cobbett, Esq., is the President, and Mr. G. Masters the Secretary. The district is pleasant and salubrious, and contains a large number of mansions and villas, with attractive gardens and good gardeners, and it is pleasing to note the support that is given to the local society, and the efforts, united and harmonious, to render it and themselves as useful as possible. A considerable number of plants were exhibited, but only a few of them were of superior quality. The first prize, a silver cup, for six large-flowering plants was won by Mr. Reynolds, gardener to Mrs. Allen, Weybridge, with well-furnished plants about 3 feet in diameter. The foliage was excellent, but the blooms were not large. Mr. Millican, gardener to H. Cobbett, Esq., was placed second; and Mr. Cornhill, gardener to J. S. Virtue, Esq., Otlands, third. And in the class for four plants Mr. Boxall, gardener to J. A. Hickley, Esq., and Mr. Ploughman, were awarded the chief prizes. The plants were

generally thin and over-trained. For standards Mr. Polly, gardener to H. Rogers, Esq., Oatlands; Mr. Masters, gardener to F. Day, Esq., Oatlands, and Mr. Millican, were placed in the order named for creditable specimens, with stems about 3 feet high, and close well-bloomed heads 2 feet in diameter. Pyramids were not good—indeed, the best plants, those of Mr. Morgan, gardener to S. J. Du-Croz, Esq., were not pyramids at all, but columns. Mr. Reynolds had the best single specimen—a fine example of Hereward 5 feet in diameter. Pompons, except the half globes of Mr. Masters and the standards of Mr. Polly, were not superior; many of them were late, and others over-trained.

The cut blooms were better than the plants. In the class for twenty-four incurved varieties Messrs. Cornhill, Polly, and Reynolds were placed in the order of their names; and for twelve blooms Messrs. Boxall, Ploughman, and Morgan. The best blooms were White Globe, Blush Queen, White Venus, Mrs. Halliburton, Princess of Wales, Alfred Salter, Lady Harding, Jardin des Plantes and its bronze varieties, Golden Beverley, Barbara, St. Patrick, Pink Perfection, Prince Alfred, and Prince of Wales. The best reflexed varieties were Chevalier Domage, Dr. Sharpe, Felicite, Julie Lagraviere, Alma, Cloth of Gold, Mount Etna, and Progne, and the successful exhibitors of them were Messrs. Cornhill, Millican, and Masters. Japanese were very good. For twenty-four blooms the prizes were won by Messrs. Millican, Cornhill, and Masters with capital collections. The best sorts, and gay they were, were Elaine, Gloire de Toulouse, Yellow Dragon, Bismarck, La Nympe, Hero of Magdala, Nuit d'Hiver, Rob Roy, Fulton, and Fulgore. The best Pompons were Mdle. Marthe, James Forsyth, Florence, Bob, President, Miss Talfourd, White Trevena, and the Cedo Nullis. Messrs. Masters, Cornhill, and Polly secured the prizes with excellent stands.

Messrs. Jackson & Sons, Kingston, exhibited superior stands, including some of the newer varieties of Japanese; of these Fulton, rich yellow, and Fulgore, rosy purple, are well deserving of extensive cultivation. The Show was well managed and patronised.

STOKE NEWINGTON.

At the Assembly Rooms, Church Street, Stoke Newington, was held on the 16th inst. a very creditable Exhibition of Chrysanthemums, fine-foliaged plants, &c. For the best collection of ten Chrysanthemums in pots Mr. J. Monk, gardener to Henry Head, Esq., Stamford Hill, obtained the first honours. In this collection were two remarkable pyramids of Rifleman and Prince of Wales. They were 5 feet high and well bloomed and furnished. For six plants in 11½-inch pots Mr. Monk was the only exhibitor, staging capital examples of Golden G. Glenny, Miss Hope, Mrs. G. Rundle, Venus, Prince of Wales, and Lord Derby. The same exhibitor was first for six and four in the classes for Pompons; and Mr. F. Wells, gardener to F. A. Smee, Esq., Woodbury Down, second, but many of the flowers were not open.

For six foliage plants in pots not to exceed 12 inches in diameter Mr. Beale, gardener, Page Green, Tottenham, was first; and Mr. Monk second. For eight table plants the table was turned, Mr. Monk being first, Mr. Beale second. Both exhibited well.

CUT BLOOMS.—In the open class for twenty-four blooms Mr. Langdon, gardener to Dr. Monro, Brook House, was the only exhibitor and staged an excellent collection. In the class for twelve blooms Mr. Butcher was first. His best blooms were John Salter, Prince Alfred, and Rev. J. Dix. Mr. Monk was second in this collection. Mr. Brunlees, St. Patrick, and Princess of Wales were very fine. In the class for six blooms Mr. Butcher was first, Mr. Langdon second, and Mr. Monk third.

In the class open for amateurs residing in Hackney and Finsbury, of six blooms, T. G. Godwin, Esq., secured first honours with a fine lot. In the open class for twelve Mr. Hammond, York Lodge, Stamford Hill, was first with very good blooms, including Prince Alfred, Mr. Heales, and Princess Beatrice, remarkably good. In the class for six blooms there were five boards, first honours going to Mr. Butcher, second Mr. Hammond, third Mr. Goder, Mr. Beale and Mr. South being equal fourth.

In the maiden class for six blooms Mr. Hammond was first with very fine blooms of Prince Alfred, Mrs. Heales, White Venus, Nil Desperandum, Princess Beatrice, and Mrs. George Rundle. Mr. Oubridge, 6, Church Road, Stoke Newington, second. Noticeable on this board was White Globe and Princess Teck. Standards were very well shown by Mr. Langdon and Mr. Wells, the former exhibiting large-flowering kinds, and the other exhibitor Pompons, each receiving a first prize, which was well merited.

In the miscellaneous collections were good collections of Cyclamens from Mr. Monk, and Mr. Butcher was a very good second. A very good group of Solanums came from Mr. Rochford, Page Green, Tottenham. Mr. Stroud also exhibited a group of useful decorative plants. Mr. Shirley Hibberd exhibited some fine pans of Watercresses which he cultivates so successfully; Mr. Oubridge of the Church Road Nurseries staged very good decorative plants, also six fine plants of Elaine Chrysanthemum

and bouquets. He also had the arrangement of the Exhibition, which was very well carried out.

WESTMINSTER AQUARIUM.

The Borough of Hackney (late Stoke Newington) Chrysanthemum Society held their Show in the above building on the 20th and 21st inst. At most exhibitions of the year the cut blooms have been superior to the plants, but at the Aquarium the plants were better than the blooms. Many fine examples of culture were exhibited.

The classes for large-flowered varieties in 11½-inch pots were well filled; that accomplished grower Mr. Hall, gardener to W. Stevens, Esq., Lower Tulse Hill, having the first place in the premier class for six plants. The specimens were not more remarkable for their symmetry—the pots being nearly hidden—than for the fine foliage and excellent blooms, of which Mrs. Dixon had more than a hundred, and Faust—a grand plant—about fifty, all of exhibition quality. The second-prize plants of Mr. Rainbow were also extremely fine, but the blooms were smaller. Mrs. Dixon and Mrs. G. Rundle have each about two hundred flowers. Amongst the standards were some excellent specimens. The stems are about 5½ feet high, and the umbrella-shaped heads about 3 feet in diameter; the blooms are very regular and the foliage good. These plants reflect much credit on the successful cultivators. The Pompons were not equal to the large-flowering varieties, being generally later and more unequally furnished. The best of the reds was Bob, of yellows St. Michael, and of whites Mdle. Marthe. Messrs. E. G. Henderson & Sons, St. John's Wood, had a first-class certificate for a new variety with pale carmine red flowers, glossy and well formed; also for a small plant of a large-flowered variety named Variegata, the colour being deep rose slightly tipped with white, a variety that will be looked for when the plant becomes stronger and the flowers larger. This firm exhibited a collection of well-grown plants; and Mr. Turner, Slough, brought his grafted standards. Some of the heads were formed of half a dozen varieties, and produced a novel effect. There appears to be no more difficulty in having a number of varieties on one stem than in budding half a dozen Roses on one Briar.

Cut blooms were not very numerous nor large, yet very fresh, and many of them of excellent quality. The leading varieties will be found mentioned in our reports of other shows, and it is not necessary to repeat them. We could not wait to obtain the names of the prizewinners, the system of exhibiting under numbers and affixing the cards afterwards (now nearly obsolete), being a circumlocutory process worthy of the "dark ages," when judges were not to be trusted, and time appeared to be of less value than it is in the latest days of the nineteenth century. The old system was, however, made the best of, and the Show, a good one, was well managed by Mr. Holmes.

NOTES AND GLEANINGS.

PERHAPS the largest and most imposing display of CHRYSANTHEMUMS in England is now on view in the Victoria Park, London. The individual blooms are not finer, if so fine, as the best examples at the Crystal Palace; but the number of plants—with blooms of high average quality—exceed any collection that has this year come under our notice. Altogether five thousand admirably-grown plants are arranged under a canvas-covered framework, three thousand of the large-flowering varieties and two thousand Pompons. The canvas shed is 100 yards in length, and faces the south. It is by the side of the broad walk near the principal group of flower beds, and the plants have been inspected and admired by thousands of visitors. About a hundred sorts are in flower, and there are many splendid blooms of all the leading varieties. Gluck is especially fine and is highly effective. It is noteworthy that the plants have not had the advantage of glass to assist the opening of the blooms. It is a most successful display, and Mr. McIntyre and his assistants deserve a hearty vote of thanks for providing it. The collection will continue attractive for a week or ten days.

— We hear that Mr. George Deal, an active partner in the firm of Messrs. Weeks & Co., Chelsea, has been elected to the vacant seat in the directorate of the West London Commercial Bank, Sloane Square, Chelsea.

— The following prizes were awarded at Messrs. James Carter & Co.'s METROPOLITAN ROOT SHOW, which was held in the Agricultural Hall, Islington, last week:—Mr. Pragnell, the Gardens, Sherborne Castle, was placed first for twelve dishes of vegetables, followed by J. Neighbour, Esq.; Mr. Iggulden, gardener to R. B. Wingfield-Baker, Esq., and W. S. Baldwin, Esq., in the order named. In the Potato classes—namely, for twenty tubers of Snowflake, Red-skin Flourball, Improved Magnum Bonum, and American Breadfruit, the successful exhibitors were Mr. Pink, gardener to Lord Sondes;

Mr. Edwards, gardener to Rev. Canon Tarver; Mr. Creed, gardener to Mrs. Walton, Fernsdales; W. S. Balwin, Esq., and Mr. Hart, gardener to S. Cooper, Esq. The prizes for Onions were won by E. Thorne, Esq., and Mr. Penny, gardener to H.R.H. the Prince of Wales.

— In the absence of White Camellias, or rather the inadequacy of the supply of bold pure white flowers in Covent Garden Market, there has recently been somewhat of a "run" on WHITE CHRYSANTHEMUMS. Mrs. G. Rundle, White Venus, and other incurved varieties have been in request, but especially, perhaps, Elaine, the large pearly white Japanese variety. Good blooms have sold readily at 2s. each—not an extravagant price when it is remembered that to obtain flowers of the desired quality only three or four can be grown on each plant, which plant must have careful cultural attention for fully nine months.

— TWELVE of the Natural History and allied Societies in the midland counties have formed a union for the furtherance of the STUDY OF NATURAL HISTORY, &c. The union has decided to issue a monthly magazine to be called "The Midland Naturalist," the first number of which will be issued in January next, under the joint editorship of Mr. Edward W. Badger, F.R.H.S., Birmingham, and Mr. W. J. Harrison, F.G.S., of Leicester. The magazine will contain original articles on natural history, &c., meteorological, botanical, geological, and other notes, brief reports of the proceedings and excursions of the societies in the union, and a diary of coming meetings and excursions, &c. It is hoped that Floras of the several midland counties will in time be published in the magazine.

— THE two thousand blooms of WHITE CAMELLIAS advertised for by Mr. Wills in the Journal of last week were employed in the decorations at the Oratory, Brompton, on the occasion of the marriage of His Grace the Duke of Norfolk on the 21st inst. The floral decorations were very elaborate and extensive; besides nearly three thousand cut blooms of white Camellias, several large plants of Camellias were arranged, also Orchids, Roman Hyacinths, Nepenthes, and Ferns. One plant of Nepenthes Rafflesiana had sixty pitchers.

— MESSRS. JAMES CARTER & Co. have been awarded a Banksian medal for the excellent collection of Potatoes exhibited at the meeting of the Royal Horticultural Society on the 6th inst.

— WRITING to us on LAURUSTINUSES IN POTS a well-known floral decorator seasonably observes—White flowers are always in demand at Christmas. It is not every season that Laurustinus flowers can be depended on outdoors in December and January, but plants in pots removed to a cool house before severe weather will be sure to give a succession of bloom for a lengthened period. The plants are best established in pots, but we have frequently lifted neat little bushes in October well set with bloom and potted them in loamy moderately rich soil, and placed them under a wall or fence protected from the sun for a few days, removing them to a cool house in November, watering well, and sprinkling overhead occasionally, the reward being heads of bloom very useful for decoration and cutting from during the dull winter months. The best form is the pyramid as taking up less room than bushes, but standards are fine for breaking the monotony of flat even surfaces. All the plants require is to be hardened off after flowering, to be planted out in good soil in an open situation but sheltered from winds, and to cut the heads into shape before growth takes place, watering well if dry weather prevail when planting out; and they may be lifted again in autumn, for the lifting appears to increase their floriferous character. The flowers are much finer and more delicate when produced under glass than outdoors.

— MR. ALFRED R. WALLACE writes in "Nature" as follows on BEES KILLED BY TRITOMA. In a friend's garden here (Dorking) where there are quantities of Tritomas or "Red-hot Pokers," hundreds of bees have been this year destroyed by them. The honey produced by the flower is very abundant, and the bees enter the tube of the corolla to get at it; but the tube, which is only just large enough at the mouth, tapers gradually, and so the bee gets wedged in and cannot extricate itself.

— WE recently noticed a good plant in flower of the PANCRACTUM SPECIOSUM at the Royal Nurseries, Slough. Its large sweet-scented pure white flowers are invaluable as a centre to bridal bouquets. Introduced from the West Indies 120 years ago, it is still the best of the species, and should be in every collection of stove plants.

— WE regret to have to announce the death of Mr. SEPTIMUS HOLMES GODSON, of Rutland Gate and Tenbury, which took place on the evening of the 16th inst., at the age of 78. Mr. Godson was for many years a member of the Council of the Royal Horticultural Society, and during the whole of the period devoted himself with an energy and constancy rarely met with to the promotion of the Society's work in the direction of pure horticulture, at a time when other influences were endeavouring to make use of the Society for other purposes.

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

KITCHEN GARDEN.

In nearly every garden there are annually some alterations to be made, and the best time to do this is when the pressure of work is not severe. In most gardens when the months of November and December are mild there is spare time that may be devoted to various improvements. In the first place it is of considerable importance that all the vacant ground should be dug and trenched. Not only does the garden look better in that condition, but the soil is rendered more fertile by exposure to the winter's frost; then all beds, borders, or newly-planted trees should have a mulching of manure placed round the roots before severe frost sets in. We generally wait for the first frosty night, and as the manure is all ready to wheel on to the ground it can be done when the surface is hard and clean. We have been waiting for this to place a mulching of manure on the Asparagus beds; they require a good dressing of rich cow and stable manure annually.

Besides having the quarters and borders neatly dug or trenched, the walks ought to be kept in the best order; they ought to be dry for the feet in all sorts of weather. If they are not in condition now is a good time to attend to them. We have seen the Box edging a foot high in some gardens because it had not been trimmed when it required it; and the gravel had disappeared under a coating of soil carried from the alleys by the feet of the workmen. This at least ought to be prevented by having a scraper fixed at the end of each alley where it is connected with the paths. When walks are in this state set about renovating them at once. The Box edging should be lifted and the ground prepared for replanting it. This ought to be done by taking out some of the old soil and renewing it with fresh. It is not necessary to wheel any of the soil away to do this; it can be done by digging up the ground about 18 inches wide, and during the process the soil under the Box line should be thrown on the border and the fresh soil from the border be thrown into its place. After the ground is dug tread it in firmly with the feet, then rake it level, and in the process remove any large stones that would interfere with cutting off the soil. After this has been done strain a line tightly along it; this will show any inequality in the ground, when it must be made level. When this has been done beat the ground down firmly with a spade. The soil may be cut off deep enough to allow of the Box plants being buried sufficiently to leave about 2 inches above the ground. If the old Box was bushy 1 yard will plant about 3, and if the remainder could be sold it would fetch a sufficient sum to pay for the alterations. After the planting is finished let the walks be regravelled, finishing off the work so that the middle of the path is the highest, but the middle ought not to be so much higher as to make it uncomfortable for the feet. It is necessary when the kitchen garden lies flat to drain the rain water from the path by having a row of drain tiles laid down its centre and some rough stones or bricks over it. The walk itself ought to be composed of rough stones with a coating of finer gravel on the surface. The most comfortable gravel for the feet is that which binds readily after it has been rolled or walked on for a week or so; but this will sometimes retain water on the surface, and it is not dry to the feet after rain. The best for wet weather is that from which the finer particles have been sifted, retaining only the rougher portion. It is sometimes necessary to sift it a second time to remove stones above a certain size, as large stones are very unpleasant on paths.

VINERIES.

There has been a week or more of wet weather, and this has had an unfavourable effect upon the fruit hanging in late houses. Royal Vineyard has suffered most. This variety has usually kept well with us up to Christmas and later; but it has a failing, and that is the tendency of the berries to crack near the stalk. They are worse in this respect than we ever had them, and wherever there is a crack the berry decays. All the other sorts are keeping well, including Snow's Muscat Hamburgh, Waltham Cross, Lady Downe's, Muscat of Alexandria, Mrs. Pince, and Gros Guillaume; the last-named sort is very well flavoured this season. The moisture given off from decaying leaves either lying on the ground or hanging on the Vines is a fertile source of decay, and they should be frequently removed.

Much may be done to prevent decay by heating the hot-water pipes and opening the ventilators at the right time. The pipes ought not to be heated when the house is closed, except it be to keep out frost. The heat ought to be applied after the ventilators are opened in the morning and be turned off about mid-day, which will allow of their cooling before the house is shut up in the afternoon. Vines in pots which have been started to produce Grapes in April and May should not be pushed on too rapidly until we have passed the shortest day. When the leaves are fully developed and the roots have started to grow the temperature at night may be maintained at 65°.

ORCHARD HOUSE.

The trees in pots are now plunged out of doors, where they will remain until early in January. The pots at present are merely plunged to the rim, but should frosty weather set in we shall either cover the surface of them with dry litter, or, which is equally good, some fresh cocoa-nut fibre refuse. Before this appears in print we shall probably have potted the usual number of "maiden" trees—that is, trees one year from the bud or graft, to grow on into specimens to replace any that show signs of exhaustion or which have grown unsightly. To grow fruit trees well in pots it is necessary to compress the potting material into very small compass, and it must on that account if on no other be of good quality. Good turfy maiden loam, four parts to one part of decayed manure, is as good as anything. A young tree as above may be potted into a 10 or 11-inch pot, according to the extent of the roots. It is sometimes difficult to get the roots of the largest trees into 11-inch pots. Drain the pots well and use precautions to prevent the soil from mixing with the drainage.

PLANT STOVE.

Some of the most useful decorative plants for the stove at this season of the year are those with high-coloured foliage. If we are wanting in white, yellow, and crimson-coloured flowers, there is no lack of those tints in the foliage. One of the finest, if not the very finest, of stove plants with white variegation is *Pandanus Veitchii*; it is a most free-growing plant, and can now be obtained at a very cheap rate. It should be in every collection. Then we have *Dracæna terminalis alba*, a plant destined to become very popular; *D. reginae* has broader foliage, and the leaves are very striking on well-grown plants. The finest yellows are to be obtained in *Crotons*, and when well grown nothing surpasses *C. angustifolium*; its gracefully arching foliage waves like golden streamers in the twilight, but to do it well the plant must be daily syringed with tepid water and stand close to the glass fully exposed to the noontday sun. *C. Weismannii* has the best golden foliage of any of them, and it has no tendency to change green, even when shaded. *C. undulatum* in its way is very striking, the foliage being dashed with crimson and dull purple. If crimson and purple in foliage is desired we grow *Dracænas*, and still the best are *D. terminalis* and *D. Cooperi*; the foliage is similar in colour, but that of *D. Cooperi* is recurved while the other variety is erect. There are many other foliage plants extremely useful for striking effect, and the plan's show off best over a groundwork of graceful Ferns. And what pleasing reminiscences of summer weather and sunny climes such an arrangement does produce in the dull days of November and December! Ferns that are most useful for cutting should be used, such as *Adiantum cuneatum* and *A. formosum*. This last-named species is one of the best for cutting. The fronds when mature last longer than any other Maidenhair. We have used more loam in potting *Adiantums* than formerly; indeed, we were not successful with *A. Farleyense* until it was potted in turfy yellow loam with a little decayed manure. The pretty *A. gracillimum* succeeds well with the same treatment. There are many *Adiantums* adapted for mixing with high-coloured foliage plants as well as other species of Ferns, but the four species named will be found as striking in character as any other four that could be named, and none are more useful. All such plants require a season of rest, and it is well not to excite them any more than may be necessary to keep those requiring the most heat in good health. Some of the more hardy *Adiantums* will live in a greenhouse temperature even in winter, but they will not thrive, the fronds of *A. cuneatum* becoming of a sickly yellowish green colour. The fronds last longest when cut if the plants are placed near the glass and in a temperature of about 55° in winter. Those fronds only should be cut on which the spores are nearly ripe, or as long as they remain green after that stage.

FLORIST FLOWERS.

Auriculas do not seem to take kindly to rest as yet, the high temperature at night and higher by day excites to unseasonable growth. The plants now require very little water—just enough to keep them from shrivelling. To insure neatness the decayed leaves are removed as soon as they are perceived, and no green mould or weeds should be allowed on the surface of the soil. Green fly may be brushed off with a fine camel-hair brush.

Our stock of Carnations and Picotees have now been potted and placed in frames. We admit plenty of air, and remove the lights altogether when the weather is fine. Pinks and Pansies

in beds require to have the soil stirred about them occasionally, and if the plants are thrown out by the frost to be again made firm by pressing the plants in gently by the hand.

Tulips were planted out last week. We prepare the ground by trenching and placing some good manure at the bottom of the trench, and another layer about 6 inches below the bulbs. On the surface there is a sufficient depth of turfy loam in which to plant the roots; these are placed about 3 inches below the surface of the ground. The operation ought to be performed when the ground is dry.—J. DOUGLAS.

TRADE CATALOGUES RECEIVED.

T. S. Ware, Hale Farm Nurseries, Tottenham.—*Illustrated Catalogue of Hardy Perennials, and A.B.C. Bulb Guide.*

R. Dean, Ranelagh Road, Ealing.—*Catalogue of Hardy Herbaceous and Alpine Plants, and Potatoes.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

TREE BLOWN DOWN (*F. J.*).—Unless your neighbour acted so as to cause the tree to fall upon your outhouse and fruit trees you have no remedy, any more than a man has who is wounded by a tile falling upon him from a roof.

ARBOR VITÆ (*E. E. M.*).—It is not injurious to health when growing near to a dwelling.

APPLE (*E. R.*).—The Irish Peach and Trumpington are totally different in appearance, quality, and season of ripening.

MARECHAL NIEL ROSE NOT FLOWERING (*Amateur*).—As your plant grows freely we cannot account for it not flowering; but we were in the same case once, and were told that there were two varieties. That was when it was first sent out. We immediately discarded the variety that did not succeed, and had a fresh lot budded on the Briar. The new plants have flowered freely every year since. This Rose flowers well under glass, whether it grows freely or not.

CULTURE OF VALLOTA PURPUREA IN WINTER (*A. Boyle*).—This species is evergreen, and the roots must not be quite dry, even in winter; water occasionally to prevent the soil becoming dusty dry.

VINE TO REPLACE GOLDEN CHAMPION (*A. B. C.*).—The best for your purpose is Foster's White Seedling. Duke of Buccleuch spots in the same way as Golden Champion. Unless they have special treatment they are both very uncertain.

SEEDLING BRIARS AND ROSE CULTURE (—).—Probably seedling Briars are dearer this year, but we bought them from the gentleman you name a year or two ago at 1s. 6d. per hundred; indeed, they were at that time advertised in this Journal at that price. We never "tongued" the stems of old Roses just under ground, but cut notches would probably cause roots to form near the surface. It might be done now. Cocoa-nut fibre refuse would be a poor manuring for Roses. It has very few manurial properties.

TRANSPLANTING ROSES BUDDED LAST JULY (*Idem*).—It may be done, but it is not usual to do so, as they flower much better and grow stronger if they are allowed to remain on the ground where they were budded. If it is necessary to remove them it should be done at once.

GROWING TOMATOES IN LEANTO HOUSE (*J. E.*).—There is no reason why they should not grow and bear well in such a house, but your sketch shows the pots standing on the flue. This would subject the roots to too much dry heat. It would be necessary to place a stage or inverted pot to raise the bottom of the pots about 6 inches above the flue.

PRUNING ROSES (*R. G. M.*).—Prune the Roses in the vinery as soon as growth has ceased. We should train them thinly, and should only shorten them to the extent of removing the immature tips of the shoots, as your object is to cover the wall quickly. Noisettes and Teas usually flower the more freely when not closely pruned. The Roses outdoors should not be pruned until they commence growing in the spring, cutting them then much more severely than those under glass. The Ayrshire Roses, such as *A. Bennett's* Seedling (Thoresbyana) and Dundee Rambler; the evergreen Roses such as *Felicité Perpetue* and *Flora*, also the Boursault Rose *Amadis* would cover your north wall quickly. Gloire de Dijon and the vigorous-growing Hybrid Perpetuals would also flourish admirably provided the soil is good. We cannot answer your last question.

ROSES FOR LIGHT SOIL (*E. T. H.*).—Dwarf Roses on the Manetti stock are more likely to succeed in your garden than standard Roses on Briars. Roses on their own roots would also, we think, thrive in your soil. We cannot answer your other question.

REDIGGING OLD PASTURE (*A. G. S.*).—Chop-up the buried turf and mix it with the upper surface soil.

NAME OF FRUIT (*A Reader*).—Catshead.

NAMES OF PLANTS (*M. Fisher*).—They cannot be identified from such flowerless specimens. (*W. M.*).—We cannot name florists' varieties. No. 3 is *Sericographis Ghiesbreghtiana*. (*A. T., Eshery*).—The specimens were not numbered. We do not know Canova's Laurel by that name. (*Inquirer*).—It is a *Salvia*, we think *S. Heerii*, but the specimen was much withered. (*A Reader*).—You are right as to the genera of plants. No. 2 is a *Gemma*, 3 a *Pulmonaria*, and 4 a *Saxifrage*, but we cannot name the species without better specimens.

POULTRY, BEE, AND PIGEON CHRONICLE.

POULTRY AND BIRD NEWS.

We regret very much to hear that Mr. W. A. Burnell of Winkburn Hall, near Southwell, is breaking up his Cochins yard and about to retire from the poultry fancy. We learn that all his birds are entered at the coming Birmingham Show at saleable prices, and that his poultryman is on the look-out for a fresh situation.

At the late Oxford Show Mr. S. Matthews claimed Mr. Pope's cup Black Red Game cockerel in pen 193 for £50. The purchaser exhibited this bird last week at the Crystal Palace Show and won with him the £5 ss. cup presented by Messrs. Spratt. The bird was here claimed for the enormous price of £100 10s., and has returned to his previous owner's yards at Biggleswade. Mr. Matthews consequently makes £40 and wins a cup by the transaction, the Oxford Committee made £5, and the Palace Managers £10, while the breeder loses £55 and regains his bird. May he do well with him.

We have seen specimens of the prize cards which the Oxford Committee are sending round with the prize money, and prettier ones we have but rarely seen. They are of neat size with a band of gilt and colour at the edge, and the winner's names and the prizes they have won are beautifully printed on the inside. We never remember to have seen much prettier cards save those which the Messrs. Jennison sent out from the Bellevue Show of 1873.

Of the many schedules which have come to hand that of Newtown deserves some mention, for in it we find three distinct divisions with nearly the same number of classes in each, and those, too, for the same breeds, only Division I. is for all comers, Division II. for farmers and others residing in Montgomeryshire only, and Division III. is confined to cottagers rated at £7 and under, or paying an annual rent or rents of £8 and under. We do not know how the plan will answer, but it must necessitate a large outlay in prize money and an immense amount of labour to the Judges and Committee.

At the Crystal Palace the other day a meeting was held in the Marble Hall to discuss the advisability of forming a new poultry club. A good number of fanciers were present, and the chair was taken by the Hon. and Rev. F. Dutton. After some considerable discussion the meeting was adjourned until December 3rd at Birmingham. The following are the names, in alphabetical order, of those who were appointed to draw up rules and submit them at the next meeting of the Club:—T. C. Burnell, Hon. A. Baillie-Hamilton, R. A. Boissier, O. E. Cresswell, Hon. and Rev. F. G. Dutton, A. E. W. Darby, J. Hinton, Rev. Hans F. Hamilton, R. E. Horsfall, S. Matthews, J. E. Manby, E. Pritchard, Rev. W. Serjeantson, C. Sidgwick, and R. B. Wood. Among these gentlemen are breeders of Dorkings, Brahmas, Cochins, Game, Malays, Hamburgs, Polish, French, Siklies, Bantams, and Waterfowl, so the fanciers of no particular breeds can consider themselves to be unrepresented.

On Tuesday last Mr. Albert Field dispersed the whole of the celebrated flock of Game fowls which belonged to the late Mr. Chaloner. The sale took place at the Corn Exchange, Workop, and about 125 birds were put up to auction. On the same day at Stoke Park, near Ipswich, Messrs. Sexton & Nimcoade offered about 200 head of birds from Lady Gwydyr's renowned yards. Black, Buff, and White Cochins, and Dark and Light Brahmas, were the breeds offered for sale. We do not wonder that a sale was necessary to get rid of some of the surplus birds, for when we were there in September last the park and enclosed runs seemed positively alive with healthy and good specimens.

At the coming Pigeon show to be held at Glasgow on December 19th and 20th next, under the management of the North British Columbarian Society, Capt. Norman Hill again offers for competition the £15 ss. champion Pouter cup. We hope the entries for it will be large.—W.

CRYSTAL PALACE POULTRY SHOW.

NOVEMBER 13TH-16TH.

Brahmas.—The Darks were certainly far behind the shows of 1873 or 1874 both in numbers and quality. It would be interesting to know the cause of this, whether the breed has been found disappointing as to useful qualities, or whether the great uncertainty of the produce of any but carefully selected pens has made it less popular. The Lights keep up in numbers, and have never, in our opinion, been uniformly better in quality. The cup Dark cock is a grand specimen of his owner's type of bird, well through the moult. He is like last year's cup cockerel; second too long on the leg, but in good condition; third out of condition, but nicely feathered and with a rich black breast; fourth has no cushion. The first hen is a beautifully-marked

bird of the dark colour; second very clear in breast-pencilling; third a grand-shaped bird and short on legs; fourth a bargain, entered at three guineas, well shaped, but might be clearer in marking. It was a pity that the Brahmas were placed so high up; birds of their size show to much disadvantage in such a position. The first cockerel is a beautiful bird and much such a one as Mr. Lingwood's yard has before produced for the winner; we think we have seen them with more silvery hackles. Second not so neat in head as the cup bird, well shaped, with little hackle-marking; third very dark, with rich tints, hooked; fourth coarse in head, a Cochins-like bird, but having a good cushion; we much liked the fifth; sixth a little narrow, but promising to grow. The mottled-breasted birds were very poor and scarcely worth remark; we liked the third-prize one best. Pullets did not strike us as at all equal to former years. First a silver-grey bird of fair size and well feathered; second a fine-grown pullet, promising to be a grand hen, with good even pencilling, but she is too much hooked; third too brown and not crisp enough in pencilling; fourth a small bird, good in breast, but with two styles of marking on wing; fifth short-legged and well-shaped; sixth clearly and well marked on the back, but small, and with little leg-feathering.

Light.—First in cocks was an immense bird and very white, but hollow in chest. We did not admire the second. Third would be by far the best in the class but for his ugly comb. His shape is magnificent. He is, we believe, Mr. Horsfall's cup cockerel of 1875. The first hen very good in shape and hackle; second deep and well shaped, but with a good deal of sap in her feathers; third very large but a little narrow. Among the cockerels were many poor birds, and the greater part of them were too yellow. The cup bird good all round but not large, and yellow in neck hackle; second very much hooked and yellow; we liked the fourth as well as any, though he is deficient in neck hackle; fifth intensely dark in hackle; sixth good in shape with well-marked hackle, but comb too high; seventh one of the whitest birds. Pullets made a large class of seventy. Cup a beautifully white bird with well-defined hackle; second clear in colour with a good cushion; third a compact bird, short in back; fourth hooked, and very large; fifth a good bird all round; sixth short-legged, good in hackle, hooked; seventh large but spotted. The five-guinea Selling class for Light birds was far superior to that for Dark. The first and second-prize pair were real bargains, and many other pens were by no means despicable.

Houdans were only moderate classes, save the hens, which we thought good. We must say that the awards in these classes puzzled us much. Houdan cocks apparently eat their prize cards, for we could find none towards the close of the Show. First was an indifferent bird in size with coarse comb. Second a dark and very large bird; we observed a "sold" card on his pen, his price being £10. Third a well-shaped bird. In pen 881 we observed a White Houdan cock. We thought the hens by far the best of the four classes. Four very fine birds were close together, and there was not much to choose between them. First a grand hen in shape, and evenly marked; second a little dark, but good. Mrs. Vallance's very highly commended bird had bad feet, otherwise we admired her as much as any in the class. The first cockerel is a very dark one, large and strong; second has a splendid crest and even marking, but a wry comb; third spoilt by a most irregular lumpy comb. In pullets the cup bird has a wonderfully round crest and even marking, but is a little knock-kneed; second has a very light buff with dark plumage and an ill-formed toe; third a fair evenly-marked bird; fourth very dark.

Crêves.—The cup cock is all round a magnificent bird, short on the legs, which we think a great point; he had the advantage of a corner pen. Second not equal to the cup bird, but short-legged with a good comb. Third larger and a sprightly bird. In hens Mr. Ward was again easily first. The three winners were all well worthy of their honours. We much admired Mr. Hibbert's very highly commended hen too. In cockerels first was fine and good; second a stylish bird, and a bargain; third short-legged, with a fine crest. In pullets No. 1 was easily ahead; second a good bird with compact crest; third not very large.

Hamburgs were a grand collection. Their popularity seems advancing, and several south-country breeders have been added to their admirers. Golden-spangled cocks numbered seventeen. First was a bird in which one could hardly find a fault; second generally good and lustrous, a little dark; third a good bird with an honest comb. The first hen was a lovely specimen with round even lustrous moons not too thickly set; second had also good moons, but running a little together; third more like the first, with small moons not so evenly distributed as those of the first. The first Silver-spangled cock had perfect sickle; second remarkably good for five large moons; third not a very good comb, but honestly shown. The Silver-spangled hens were a capital class of twenty-five. The cup hen was just what we admire, so even in her spangling; second almost her equal, if not quite. The Hamburg cup very justly went to Miss Mackenzie's Golden-pencilled cockerel, a bird excellent in comb and tail and even in colour, though a shade lighter than we like; we could

not understand the second award, the cockerel had such an indifferent tail; third a very rich-coloured bird. Much exception was taken to the first award in hens, but we could not see so much error in it, save that she has a badly-marked tail; second with very even and medium pencilling; third well pencilled up to the tail. The first Silver-pencil cockerel was good all round, but a little white in some of the tail feathers; second we thought a lovely little bird; third was not in good condition. The first hen was very heavily marked with real barring; second again good in pencilling, not so in comb; third small in pencilling. In Blacks the first cock was splendid in colour, but bad in comb and long in leg; second a very good bird all round; third a good old bird, his lobes wonderfully white for his age; we admired the very highly commended one. First in hens an old bird, very good in head and colour; second a very lustrous pullet; third fair in style, but knock-kneed.

Leghorns.—The judging of Leghorns must be a difficult matter, for the desired points still seem little defined. An exaggerated comb seemed here to be the first requirement for success. In Brown cocks the cup went to a bird with such a comb, generally the best in the class; the second seemed very close upon him; the third was by far the best-coloured bird, but he had the advantage of an end pen. The prize hens were all pretty-looking birds and very equal. The cup White cock was a pretty bird, but not clear. We preferred the second and third, though the latter had ugly yellow lobes.

Andalusians had two classes, one for cocks and one for hens. By some inexplicable mistake pairs were sent in lieu of single cocks in the majority of pens of the cock class, and all three prizes were awarded to them. The cockerel in the cup pen was a splendid bird; we have never seen a better. Second a very fair pair, but we did not admire the hen. Third a very good pair, but the hen too light in neck hackle. The first hen was a magnificent bird; we saw that she had been claimed, though the catalogue price was six guineas. Second we did not like nearly so well. Third fine and large, but not so even in colour as the first.—C.

Cochins.—Adult Buff cocks only brought seven pens. The winner was good in all points but colour, which was of three shades. We do not, however, see what else could have won if the Judge objected to the tendency to hock-feathering in the second. Hens were not very good. When we saw them no cards were up, and our own choice was for pen 117 (Proctor), which was subsequently second. The first hen was pretty in shape but not very good in colour; we believe she only fetched £8 5s. at the auction, which is a small price for the best Buff hen in the Crystal Palace Show. The cup cockerel was the bird which was very highly commended at Oxford, we think; we then noticed his grand style and shape, and also his want of sound and even colour. The second was of grand colour, and his only defect was his tremendous feathering. Buff pullets were pretty and the winner of a nice colour and shape, as were second and third, the latter of much the same colour as the first. The Partridges were very good. In old cocks the winner was perhaps now in the best feather, but in a short time we should think the second would run him closely, but both are good birds. All the three prize hens were very fine, the third excelling by the fashionable pencillings. Young Partridge Cochins mustered well. The winning cockerel was fully well feathered, and the pullet which won first had good size, shape, and pencillings. White cocks were very good—as superior as the cockerels were poor. The winner was in good looks with fine style and carriage, but not of the pure white we like to see. The second we put third before the cards were out; he is broad and square. Third was a great lumpy bird, heavily hocked, otherwise, in our opinion one of the best Cochins in the Show. The cup hen was very white, large, and square, and an easy winner. Second was also good. The very highly commended pen of Mr. Boissier's and the third were very even in quality, and we thought the position of the latter three birds quite a toss-up. The first White cockerel was showy but very small, and the second we think the pretty bird we saw very highly commended at Oxford. The White pullets were moderate, the first easily the winner. Blacks were very good, the first adults of Lady Gwydyr's being of beautiful colour. The winners in both cockerels and pullets may consider themselves fortunate for their honours; though both birds have good points, and although the classes were large and good, nothing stood out as easily ahead. Langshans only had nine pens, and they and their champions surprise us.

Spanish were very fairly represented in numbers and quality. From the half-score of old cocks we thought the winner well chosen; his head points were all good and his colour fair. A great many hens want more time. This Show is full early for hens of this breed, which appear to be late getting over the moult. The first cockerel, too, was good, as were the very highly commended pens of Messrs. Jones and Yates. The pullets were fourteen pens in number, and the best birds appeared to have their right positions.

Malays.—There were twenty-nine pens in the two classes,

and they consequently brought in entry fees £11 12s., and they had in prize money £8 3s., so we shall hope to see next year classes for chickens also, especially as it is hardly fair in this breed for the youngsters to compete against the parents. First and second went to good old cocks, fine in shape and possessing much bone. The third was a promising young fellow of good colour. The hens were mostly dark. The awards we did not obtain, but we fancied a bird in pen 1473 (Grimmer), 1476 (Joint), and 1481 (Hinton). We thought it on the whole as good a class as we have this year seen.

Polands.—These were extremely good classes all round. Thirteen Gold cocks opened the department, where the winner was in superb condition and seemed used to a show pen. The second was a very fair cockerel. Many birds here want four or five weeks more. Hens were fourteen pens strong, and though many birds were very good, and some especially so, we heard some difference of opinion concerning the winners. The winning Silver cock was hardly silvery enough, or else his crest is large, as is the crest of the cup hen, in fact as good as any we have seen for many shows past. Lady Dartmouth showed a good hen, and Mr. Adkins also had a beauty. The Blacks were good. We believe Mr. Dixon judged them; if so, are we wrong in saying that he this year selected birds with a different type of crest? We are not alone in our opinion; and though we quite approve of his choice, we did not think, knowing that he was to judge, that the cocks would have been placed as they were. In pen 1535 was the first-prize bird of last year. His tail is not quite perfect, but we fancy he was in as good feather this year as he was last. The first is an old bird good and well moulted; second a pretty cockerel the best part of which is his crest. In hens the second won first last year as a pullet. She has improved and appears to have more stamina, for it may be remembered we always looked on her as delicate. The first here was second last year, and second in 1875; she was grand in colour and a fine crest, the latter a shade parted. **Variety Class.**—Here was even a greater medley than usual, for two dozen pens of all breeds met to do battle for three prizes. We hope if the National next year does not increase its classification it will copy less important societies and have two firsts, two seconds, and two thirds. We are sure the present system is unfair to the Judge, who must use his own fancy however much he may try to choose the best birds. This year the first prize in the lottery fell to La Fêche, second to Sultans, and the third prize was obtained by Indian Game. The latter breed we hope, however, to see soon well established; and we say now, to give all breeders and fanciers the earliest knowledge, that classes will be provided for the variety at the Oxford and Palace Shows of 1878 if enough entries are guaranteed, particulars of which may be obtained from the Hon. and Rev. F. Dutton, or of "W." office of this Journal. Among the tenants of this class were Minorcas, Cuckoo Cochins, Frizzles, Plymouth Rocks, Dominiques, Yokohamas, Surrey Fowls, Silkies, &c. To them we offer our sympathy, and to the latter breed especially, which deserved (as far as the entries of the last Show are concerned), their class as much as ever did Silver-pencilled Hamburg cocks, ditto hens, White Leghorn cocks, and Andalusian cocks, but Silkies are not to be crushed.

Bantams.—Blacks were first in our peculiar Bantam department this time, and we hope exhibitors are satisfied. We saw one fancier and said to him, "Will the awards do for you to-day?" He replied, "What the Judges do is well." He himself was not noticed. What more can we say? If the disappointed speaks thus, surely the awards were correct, and the most lustrous, the smartest, the best won. In the White-booted class were seven entries. We hope next year to see a class for "Booted of any colour." Black, White, and Speckled. The winners were chosen for their *petiteness* we suppose, and they were a pretty little pair. In the mixed class a good pair of Dark Japanese were deservedly first. They are a charming pair, and are, we imagine, the same pair which we thought at the Alexandra hardly had their deserts; second went to Cuckoos, and third to Gold Frizzles. The Laced were very good, and we are delighted to see them more extensively exhibited. Of the awards we can form no opinion, for when we went by the cards were not on, but we should suppose the pens of Mr. Leno, Rev. W. Serjeantson, and Rev. F. Tearle would all come in for cards. The Untrimmed Classes—"The least said the soonest mended," said a poultry fancier of a score of years' standing, and so we will suffice to say that among the "Game" there were a quarter of a hundred of undubbed Game cocks, while in the next class a score of others sent representatives from their yards to show that they are able at times to show untrimmed birds. Dr. Holmes, Messrs. Newnham and Manby, Messrs. Haines, Stretch, Petter, Lingwood, Bloodworth, Borrow, Feast, Long, &c., we are amazed! The cup went to a Cochin, the second to a Black Hamburg, and the third to a Spanish. We are disappointed, and once more emphatically beg the class may next year be for "hocked Asiatics" of any breed.

Waterfowl.—Aylesbury Ducks only six pens in number—three from Aylesbury, two from Stamford, one from Wales. Kindly

understand, Aylesburianses, you are one short of the Silkies of 1876, and, on the same principle as they were, are doomed for 1878, good, however, as you all were in 1877. Rouens, on the other hand, balanced them, for they made thirty pens, and very good they were. Black Duck breeders appeared to have made one parting struggle to wrest one prize from Mr. Kelleway, and twenty-one pens were entered for the fray, but it was not to be. Then come Ornamental Waterfowl, Mandarins and Pekins, Carolinas and Muscovies—all mixed up in woeful confusion. So unkind of the Committee.

Geese were very nice. Mr. Everett seems making his mark since Mr. Cresswell was first bold enough to throw out old stagers for a new pen; second also were Grey, and third White.

Turkeys.—We had seen Mr. Howard's letter to an exhibitor to say they intended to have two Judges to award the prizes to try and avoid the repetition of last year's awards. The winners were well chosen, the first old hen being in lovely order, the first cockerel very fine, and the first young hen extremely good, large, and apparently heavy. We are requested to state that Mr. Walker did not exhibit.—W.

PIGEONS.

Barbs had six classes, only averaging seven birds a class. The cup for old birds went to an astounding Black; second in cocks was a very good Red, healthy in eye; third a Black with a capital beak, but not equal to the first in eye wattles. In hens a Yellow was easily first, a Black second, and a Red third. Young Cocks (Black or Dun).—First was a beautiful Black, apparently very young; second and third also Blacks. The winning young hens were all Blacks. But one poor Yellow put in an appearance in the class for young cocks, any other colour, and the prizes were withheld. The first hen was a Red, uneven in colour; second another Red; and third a Yellow.

Jacobins.—Red cocks numbered thirty, and were a fine class. First was a rich Red with beautiful face and an immense mane; second was small with exquisite head properties, not very good in colour; third rather large, but grand in chain and hood. We thought the first Red hen a perfect model, the prettiest in face and head we have ever seen. Second too long in beak, otherwise good. Yellow cocks were another excellent class. The cup went to the first bird in this class, rich in colour and good in every point. The first and second hens were good, but none came near the cup cock. The class for Whites brought fourteen entries. The first we thought rather large and open in hood; second very fair, but after the Yellows the hoods of the Whites do not show to advantage. The winners in the class for Any other variety were all Blacks.

Fantails.—The class of twenty-four for White cocks was marked by the Judge as "an excellent one," and most deservedly so. The first cock had an admirable tail and apparently good motion, but was too timid in his pen to show this; second and third, though hardly his equal in tail, were capital in carriage. Twenty-five White hens were shown, and the cup went to Mr. Cresswell's little bird, first in this class; she is a gem, combining motion with a perfect tail; second a large bird, but with a flat tail and good carriage; third good in tail too. The Coloured Fantails made a fair class, but with many empty pens; the winners all Blue, the first being by far the best; the second had a break in its tail; and third carried its tail too much over it. A young Black was highly commended.

Nuns made a large class, but do not appear to us equal to former days, scarcely any having the due number of coloured flights. The first, a Black, was about the only bird correct in this respect; second was a good-coloured Yellow; third a Red. Trumpeters have become a most uninteresting class. A few done-up dumpy birds win everywhere. First was slightly mottled, second Mottled, and third Black, all in points splendid specimens of the Russian type. Owls.—In English cocks the prizes all went to Blues. First is a well-known bird, second very good in frill, third very dark in colour; all these birds are excellent in head. In hens first was a pale Silver, second a lovely little Silver, and third a Blue. In the class for young birds all the prizes went to Silvers. First wonderfully good; third rather large and coarse, but good in head. The three prize birds in class for Foreign Owls were all Whites, a sweet little Black being very highly commended.

Turbits had six classes. First in Blue or Silver cocks is Mr. Ecroyd's Blue; second an old Silver, formerly known in the hands of Mr. Dear; third a Silver, which looks young. Blue or Silver hens were a small class. First was a lovely Silver; second Mr. Burnell's little Blue, with tiny beak; third a Blue, a little inclined to be dingy. Red or Yellow cocks.—First Mr. Burnell's pale Yellow, with good head; second a Red, beautiful in head and face, but not very good in colour; third a rich bright Yellow. Any other colour.—The now well-known Black Shell, which is really no Shell at all, was first; second a down-faced Black Peak; third a good White. Mr. Ecroyd's and Mr. Cresswell's Black Peaks (the latter first last year at the Palace) were strangely passed by. Hens, any other colour, were a good class, but require subdivision like the cocks. First a beautiful rich-coloured little Yellow, second a small bright Yellow with

a bad peak, third a fair Black. The little Oxford cup Yellow with a wonderful frill was not highly commended. "Hatched in 1877" were a fine class, and the judging must have been to some extent a matter of choice between colours. First was a Blue, beautiful in head and colour; second a Silver; and third a Red, with a good down face.

Maggies numbered twenty-one. First a Black, splendid in colour; the other winners also Blacks. Archangels were a very good class. All the prizes went to birds with the darker colour of head and breast. We rather regret to see very brilliant birds of a somewhat lighter hue, such as No. 3613 (Packham), unnoticed. Runts looked more unwieldy than usual; perhaps this was owing to their being judged by weight, and as a consequence in all probability fattened beforehand. Any other variety.—This class was for pairs. First were Red Frillbacks, second Joe, third Black Plain-headed Turbites, and fourth Eastern-frilled birds, Brunettes we think.

THE HONEY HARVEST IN WEST NORFOLK.

To all appearance we have been more fortunate than most of our countrymen in having had two chances, one in June and a second towards the end of July. Here, as elsewhere, the unfavourable spring left even those hives which promised well at the end of February ill provided at the beginning of the year; hence there were so many empty cells to fill up that those swarms which did issue were late. The many, with whom swarming is the only success, and who do not practise artificial swarming, lost much valuable time; but they fared better than they deserved, for some swarms which came off late in July attained considerable weight in a very short time. This was the case with my two swarms of the 20th and 21st July, the latter of which filled a 15-inch straw hive in less than a fortnight, and, calling out for more room, was accommodated with a super containing 6 or 7 lbs., which was filled and sealed up in another fortnight.

I feel sure that I was right, so far as this year is concerned, in the course I pursued of taking every advantage that offered of getting supers filled instead of taking artificial swarms in June, since between the two harvests there was a barren interval which would certainly have starved the swarms unless they had been largely fed. By supering and nading I have obtained more than 170 lbs. of honey (most of it fine honeyscomb) from four hives, two wooden and two straw, besides gaining from one of the former, which swarmed, an additional stock. More than 60 lbs. is due to one stock occupying a wooden hive only a foot square, an old Nutt's "Pavilion." Of my three other hives I may say that they have done only a little less than might have been expected of them in an average year.

A neighbour, whose apiary is near the sea, has also met with fair success. He has harvested 120 lbs. of honey from six hives and increased his stock by two. The sea lavender, like the heather, has yielded little honey this year, or no doubt he would have done still better.—E. H. R.

SIZE AND SHAPE OF HIVES—BEE MANAGEMENT.

"A KILKENNY BEE-KEEPER" asks the following questions:—1, "What is the best size for a strong stock in winter, and what height for a frame hive? 2, What advantage is there in having hives shallow in preference to having them say a foot high? 3, What is Mr. Pettigrew's system of bee-keeping?"

The first question of your correspondent is important and difficult to answer. In considering the question of sizes we arrive at "good" and "better," but who dares say which is the "best?" Many strong and valuable stocks are wintered in hives containing from 2000 to 3000 cubic inches of space. A well-made straw hive 18 inches wide and 14 inches deep is, in my opinion, "a model" of size and beauty, but I dare not venture to say that it is the best size. We have hives 20 inches wide and 12 deep, two 18 inches wide and 16 inches deep, and many only 16 inches wide and 12 inches deep, and invariably find that 18-inch hives proportionately filled with bees in autumn are as soon ready to swarm as 16-inch hives, and contain more honey; and if large hives are as soon ready to swarm as smaller ones, they are as soon ready to fill supers as are the smaller, and more able to do this when they are ready. There have often appeared statements to this effect that large hives are best for good neighbourhoods and rich pasture, and small hives are best for unfavourable localities for honey. I think such statements are without foundation and are illogical. Wherever large hives are introduced and fairly tried they carry the day, and small hives disappear.

Frame hives are generally about 9 inches deep, but some are less and some more. The bar-frame school has not yet arrived at a standard of sizes, and probably will not come to a settlement of this point for years to come. Probably hives of this kind 16 or 17 inches wide and 10 inches deep are good models.

In answer to your correspondent's second question I have to

say that there is no advantage in having hives less than a foot high. I think there is an advantage gained in having straw hives a little more than 12 inches deep. In bar-frame hives there are no cross sticks to steady and support the combs, and very few, if any, of them exceed 10 inches deep. The moveable-comb system or frame hive is now in the hands of many able bee-keepers, and doubtless will be well tested and perhaps improved in the course of a few years.

The third question comes to what is termed "Mr. Pettigrew's system of bee-keeping"—a system which I follow and recommend, which my father before me followed and improved, but the system is not ours in any sense by invention. It lived before us and should not bear our name; it belongs to the country. As this Kilkenny gentleman wants to know what our system of bee-keeping is I will try to put it before him in a tangible form and in few words.

Our aim is to get all the honey and profit possible from our bees. We use nothing but straw hives for stocks and swarms, as we have found them better for bees and combs than wooden hives, and far more easily handled and managed. Wooden hives do very well for summer weather and crowded hives, but during the autumn and winter months their inner surfaces become wet with the condensed moisture of the bees, and this condensed moisture rots much of the comb. The portions of comb thus destroyed have to be taken down and cast out and new comb built in their places. The late Mr. Woodbury, who was an honest and enlightened bee-keeper, saw for himself the evil effects of wooden hives, and afterwards had his frame hives made of straw. Some of the bar-frame school have their hives made of straw, and by-and-by many others will doubtless copy their example. Combs perish in the presence of moisture, and even straw hives if wet by rain in the winter months will cause their combs to become mouldy and rotten. All hives should be well covered and stand on boards not much wider than themselves, and the boards should be slightly bevelled so as to let the rain that may fall on them run off and outwards.

In coming to deal with general management we shall have to touch on swarming, supering, eking, nadiring, feeding, &c., for our system admits and embraces all these.

By swarming we multiply stocks and obtain hives full of fresh sweet combs and youthful queens in them, and have plenty of bees from the honey hives to strengthen the stocks and make them doubly strong to face and bear the storms of winter and do the work of spring. On the non-swarming principle queens become old and die, combs become black, tough, and pollen-bound, and the system does not provide a surplus stock of bees. On the swarming principle more bees are produced, more work done, more honey gathered in good seasons, but in unfavourable seasons the non-swarming system has the advantage. Our hives are of simple construction and free from complications, and therefore answer for all kinds of enlargement—viz., eking, supering, and nadiring. Swarming is an instinct of bees—a law of their existence and well-being. Eking is the only safe mode of enlarging hives to prevent swarming. In hot seasons neither supering nor nadiring does this with certainty.

We covet and take all the early swarms we can, for early swarms with us often attain to great weights and fill large supers in autumn. If the mother hives have had a good turn on the fruit trees they are generally pretty heavy at swarming time, and yield us a good harvest of honey three weeks after swarming. The bees are then driven into empty hives. Thus a hive yields two swarms and a harvest of honey by June. We are well satisfied with 20 and 25 lbs. of good honey from each of our early swarms. This honey sells readily here at 1s. 8d. per lb. Very well, the bees driven from their home and honey commence at once to furnish the new house and make it as comfortable as the old one. These "turnouts," for that is their name, become in good seasons healthy strong stocks for another season. The bees of the first swarm, which yields the largest harvest of honey and honeycomb, are united in autumn to the turnout, and thus it is made very strong indeed. If the weather be unfavourable for the turnouts to commence housekeeping we feed them, and we can well afford to feed them from the proceeds of their own produce. Four pounds of sugar costing 1s. made into syrup enables a swarm to make a great deal of comb, and thus make a good beginning in house-furnishing. If the weather be unfavourable for honey-gathering before swarming, the parent hives are too light to yield much honey. In such cases we do not turn their bees out, generally speaking, but occasionally take second swarms from them, for in good seasons they, like first swarms, become too heavy for stocks. Hives well filled with honey in July and August are not very eligible for keeping.

In honey seasons almost all the first swarms require more room about a month after they have been hived. If honeycomb be our aim we super; if we merely want a great quantity of run honey we enlarge the hives by ekes; if we wish to obtain both honey and an increase of stocks we use nadirs—the nadirs or bottom hives become stocks, and the top ones yield honey. If all our hives become too heavy for keeping we take the honey

from them all, putting two of the swarms into an empty hive and feeding them with syrup into a stock. In such seasons the profits of bee-keeping are great. Sometimes we out large portions of honeycomb from a hive in July, and let the bees fill-up the spaces. We have no hard-and-fast line, often dodge or start aside to modify our practice. We frequently turn our hives up to see what the bees are doing inside and what is wanted. In bee-keeping the secret of success is to have good hives. They need little attention and command the interest and attention of their owners. Success produces pleasure, creates enthusiasm, and guides bee-keepers in the right direction.—A. PETTIGREW.

OUR LETTER BOX.

SHOWING BLACK BANTAMS (*D. D.*).—The bird has no chance of success if the white is visible.

POULTRY-FEEDING (*J. W.*).—Discontinue the potatoes, and feed the birds as long as they will run after their food; mix but a little at a time, and by observing the consumption closely, you will answer the question better than we can. You should keep them at 2½d. per head per week if they have a grass run.

MAGPIE PIGEON (*Young Fancier*).—The head, neck, crop, the scapular feathers, and the tail are coloured—as black, blue, red, yellow, &c.; the rest—as the wings, the lower part of the breast and thighs—are white, and in the accuracy of their marking their value consists. The scapular feathers being dark overlay the upper part of the wings, which cause them to appear somewhat narrow. They are called, according to colour, Black Magpies or Red Magpies.

SILKWORMS (*B. Sussex*).—We are not aware that silkworms have anywhere in England been reared and managed so as to be of commercial importance. It is not usual to raise the Mulberry from seed. If you do so, the seed should be washed out of the ripe berries, preserved in dry sand, and sown in the following February.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.					Rain.
1877.	Barom. at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.			
Nov.		Dry.	Wet.			Max.	Min.	In sun.	On grass.		
We. 14										deg.	
Th. 15	30.097	36.2	36.2	W.N.W	45.1	49.0	34.7	63.2	59.5	0.050	
Fri. 16	30.296	51.0	50.1	S.W.	45.2	54.4	36.1	63.3	55.9	0.053	
Sat. 17	30.250	55.1	55.2	S.W.	43.1	59.1	50.8	56.6	49.8	—	
Sun. 18	30.424	39.3	39.2	N.W.	46.3	43.0	32.9	61.4	29.3	—	
Mo. 19	30.134	43.2	42.2	S.W.	44.5	51.1	35.8	67.0	30.2	—	
Tu. 20	29.933	41.8	41.0	S.W.	43.9	48.6	32.3	53.2	27.3	0.270	
Tu. 20	29.556	38.2	37.0	S.W.	43.4	48.4	34.9	76.8	30.6	—	
Means	30.093	43.7	43.0		45.2	51.2	36.8	67.3	33.3	0.284	

REMARKS.

14th.—Very foggy early, fine afterwards, and bright evening.
15th.—Much warmer; wet and dull all day.
16th.—Overcast in morning, very hot sun at midday; fine night.
17th.—White frost in morning, fine day; very foggy evening.
18th.—Fine all day, but not very sunny.
19th.—Early morning fine, then dull with steady rain after 10 A.M.
20th.—White frost, fine, cold, bright day; brilliant evening.
Rather cooler, with frequent ground frosts.—G. J. SYMONS.

COVENT GARDEN MARKET.—NOVEMBER 21.

We have nothing of note to report since last week, trade being very quiet; and though the supply of outdoor goods is shorter, prices remain the same.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples.....	½ sieve	2 6 to 5 0	Melons.....	each	1 6 to 4 0
Apricots.....	dozen	0 0 0	Nectarines.....	dozen	0 0 0
Chestnuts.....	bushel	10 0 20	Oranges.....	per 100	10 16 0
Currants.....	½ sieve	0 0 0	Peaches.....	dozen	0 0 0
Black.....	½ sieve	0 0 0	Pears, kitchen.....	dozen	1 0 8 0
Figs.....	dozen	0 0 0	Pears, dessert.....	dozen	2 0 6 0
Filberts.....	lb.	0 6 8	Pine Apples.....	lb.	3 0 6 0
Goobs.....	lb.	0 6 0	Plums.....	½ sieve	0 0 0
Gooseberries.....	½ bushel	0 0 0	Raspberries.....	lb.	0 0 0
Grapes, hothouse.....	lb.	1 6 6	Walnuts.....	bushel	5 0 8 0
Lemons.....	per 100	6 0 10	ditto.....	per 100	0 0 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes.....	dozen	3 0 to 4 0	Mushrooms....	pottle	1 6 to 2 0
Beans, Kidney.....	bushel	0 0 0	Mustard & Cress.....	punnet	0 2 0 4
Beet, Red.....	dozen	1 6 8	Onions.....	bushel	0 0 0
Broccoli.....	bunch	0 9 1 6	Pickling.....	quart	0 4 0 0
Brussels Sprouts.....	½ sieve	2 6 0	Parsley.... doz.	bunches	2 0 0 0
Cabbage.....	dozen	1 0 2 0	Parsnips.....	dozen	0 0 0
Carrots.....	bunch	1 4 8	Peas.....	quart	0 6 1 0
Capsicums.....	per 100	1 6 2 0	Potatoes.....	bushel	3 6 0
Cauliflowers.....	dozen	2 0 4 0	Kidney.....	bushel	5 0 7 0
Celery.....	bundle	1 6 2 0	Radishes.... doz.	bunches	1 0 1 6
Coleworts doz.	bunches	2 0 4 0	Rhubarb.....	bundle	0 6 1 0
Cucumbers.....	each	9 1 3	Salsafy.....	bundle	0 9 1 0
Endive.....	dozen	1 0 2 0	Scorzoneria.....	bundle	1 0 0 0
Fennel.....	bunch	0 8 0	Seakale.....	basket	2 0 2 6
Garlic.....	lb.	0 2 0	Shallots.....	lb.	0 3 0 0
Herbs.....	bunch	0 2 0	Spinach.....	bushel	2 6 0 0
Lettuce.....	dozen	1 0 2 0	Turnips.....	bunch	0 8 0 6
Leeks.....	bunch	0 4 0 0	Veg. Marrows..	each	0 2 0 4

WEEKLY CALENDAR.

Day of Month.	Day of Week.	NOV. 29—DEC. 5, 1877.	Average Temperature near London.			Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.							
29	TH	John Ray born, 1628.	51.8	33.8	42.5	7 43	3 54	0 49	1 4	24	11 26	933
30	F	St. Andrew, Apostle and Martyr.	48.0	34.5	41.3	7 45	3 53	2 2	1 18	25	11 4	934
1	S	Princess of Wales born, 1844.	48.5	34.9	41.7	7 46	3 53	3 37	1 33	26	10 41	935
2	SUN	1 Sunday in Advent.	47.4	33.7	40.5	7 48	3 51	5 3	1 52	27	10 18	936
3	M		47.0	35.8	41.4	7 49	3 51	6 29	2 17	28	9 54	937
4	Tu		48.1	36.4	42.2	7 50	3 51	7 50	2 52	29	9 30	938
5	W	Sale of Bulbs at Stevens's Rooms.	49.0	35.2	42.1	7 52	3 50	9 1	3 39	30	9 5	939

From observations taken near London during forty-three years, the average day temperature of the week is 48.6°; and its night temperature 30.6°.

SEASONABLE NOTES ON VINES.



VINES when properly cared for require just about as much attention when they are at rest as they do in the growing season. Of course their requirements when leafless are very different to what they are during growth; but pruning, cleaning, and surfacing the borders, are of as great importance as any summer necessity.

Excepting in late vineries, all Vines will have ripened their wood and cast their leaves by this time. After this the Vines may be pruned at any time. Cut the side shoots in to the second bud from the old wood. Young leading shoots should be cut from 2 to 4 feet from where they started this season. It is not the best plan to hurry them up rapidly, as this leaves the rods smaller than desirable. We never use styptic or any other dressing to stop the Vines from bleeding. This I believe is unnecessary, at least I have never noticed any harm follow the little sap which may be lost at pruning time. Wash the canes thoroughly with soft soap and water; but unless they are overrun with insects they need not be painted with any mixture. We did not paint one of our Vines last year, and we never had fewer insects on the Vines than during the past summer. Wash the woodwork at the same time, and when all has been cleaned thoroughly down to the border remove all the surface soil from this, and in doing so do not think that by removing the loose soil alone and replacing it with fresh will materially benefit the Vines. In many instances the Vine roots are 3 to 6 inches from the surface. If top-dressing is to benefit them it must be placed in contact with the roots, therefore it is necessary to remove the surface soil down to them, no matter how far down they may be, and then add the new compost.

Top-dressings that are only to last for one year may consist of about three-quarters of good decayed manure and one-quarter of loam; but when the top-dressing has to last for several years this compost should just be reversed, and if a bushel of ground bones can be added to every ten barrowloads of soil so much the better. When we have had no bones we have used the same quantity, or a little more, of wood ashes, which we prefer to most other ingredients. After top-dressing, if liquid manure can be had, give the border a thorough watering with it. It is a capital plan to feed Vine roots during the winter.

We stated a few weeks ago that Vine-border making was included amongst our work for this winter. We are going on with this now, as November is a good time to do such work. The way we are doing one vinery is this: The Vines are planted inside, but they have arches to come through outside. Last winter and ever since we have been encouraging them to root inside, and this they have done very fairly, so well indeed that they are independent of any outside roots. This is just what was wanted, because the outside border is cut away straight with the front upright sashes of the house. The roots

inside will support the old Vines for two years; young Vines will be planted outside in the new border in the spring. The canes will be taken through and trained up amongst the old Vines for two seasons, by that time they will be in good bearing condition. Then the old Vines will be removed to give place to the young rods without having the house a season without a crop.

The outside border is taken out 3 feet deep and 7 feet wide; 1 foot of rough stones is placed at the bottom; above this is spread all over a layer of turves about 3 inches thick, then the principal compost is put in. This consists of moderately heavy loam, with one-third of decayed cow dung added, the same of wood ashes, and about one bushel of smashed bones to every cartload of the whole. This is not trampled in, but placed about 4 inches above the right level, and it will settle down by the time the Vines are planted in spring. I said the Vine border was taken out 7 feet wide, but I must not omit saying that it is not filled up this width. In a line 5 feet from the vinery a wall of fibrous turves is built perpendicularly and firmly to the height of the border, and the chopped mixture is filled in between this and the vinery. There will be sufficient soil here for the Vines to grow in for about three years, and then another strip of soil will be taken out along the front of this turved wall, and a fresh addition added in the same way as the first one was made.

In autumn notes on Vines there must be something said on covering outside Vine borders in winter. My remarks on this subject must necessarily be brief, for, right or wrong, I never cover a Vine border in winter. I have seen far more of inferior Grapes grown when the roots were coddled-up during the winter with dry straw and wood shutters than where they were left exposed to the weather. We have top-dressed our Vine borders as directed above, and nothing more will be done to them.

With regard to starting early Vines I need say little, as with Mr. Douglas's valuable notes constantly appearing, no one need ever go wrong. Early Vines succeed best when not forced hard in bad weather, but pushed sharply on during favourable occasions.—A KITCHEN GARDENER.

CAMELLIA CULTURE.

"R. M. A." has written ably on this subject on page 386, and his remarks contain evidence of having been dictated by experience. If the practice there detailed is carried out unhealthy examples of this handsome greenhouse shrub will be less prevalent. To adopt a familiar phrase, "I go about a good deal;" my wanderings have extended over many counties, and more than once have reached "over the water"—namely, to Belgium, where they grow Camellias as freely and nearly as quickly as we in England grow Laurels. It was by noting the practice adopted in the Belgian nurseries that I was able to grow Camellias at home better than before; and yet the lesson I learned was and is extremely simple. It is a lesson that applies to all plants, and may be expressed in a few words—Feed them well and keep them clean.

"All who have Camellias under their charge not only should but must recognise the principle there laid down, or they cannot excel; and they must not only admit the importance of it, but must act on it. It is not the mere acquisition of knowledge, but the application of it that makes a man famous in his calling.

In travelling and coming in contact with various minds it is surprising to find how much latent knowledge there is in the gardening world. The unused skill—or perhaps "wisdom" would be the better word, for I imagine there cannot be skill without action, but there may be quiescent knowledge—is enormous. It is not so much a deficiency of technical knowledge as a disposition to procrastination—a hesitancy to prompt actual work, that is the chief cause of shortcomings in gardening practice. Sound knowledge and clear thought are indispensable as the stock-in-trade of every gardener, but they are not sufficient; a man must have an aptitude for work—prompt thorough work, or his attainments are rendered inert. What is the use of knowing a "bookful" if the knowledge is fruitless? A man may have a headful of technicalities, but if his hands are empty he will be left behind in this matter-of-fact world. "But what has all this to do with Camellia culture?" some may ask. My reply is that it has a very direct and important bearing on the subject, and I will state the reason why.

Not long ago I visited two gardens in which were some large Camellias. They were both in the same district, so that the fundamental nature of the soil and water is the same. In one garden the plants were in excellent health—green, clean, glossy, and the flower buds numerous and firm; in the other they were unhealthy, the foliage dingy in colour and dirty, with some scale on the shoots and the buds soft and spongy to the touch. Yet the man in charge of these unsatisfactory plants was well versed in Camellia lore. He could tell me the genus was named after Camellus, that *C. japonica* was introduced from China nearly 150 years ago, that the variety *Saccoiana* had nearly twenty synonyms, and that the plants liked plenty of shade and syringing; yet what availed all this knowledge since it was not applied to a practical end? The plants were shaded no doubt, and were syringed regularly; but the syringing as conducted did more harm than good, because it was made to compensate for a thorough sponging of the plants, and it disguised the real state of the border, which was moist on the surface but dry beneath. In a word, the plants were not clean and they were not well fed. In the case of the healthy collection of plants the man possessed little, or at any rate expressed little, historical knowledge of the Camellia, but he possessed common sense and applied it. He treated his plants, he remarked, "in the same way that the coachman did the horses"—he "groomed them well and fed them well, and had no difficulty in keeping them in good health." The system of management adopted in the case of these excellent plants appears to be identical with that described by "R. M. A."

It is not enough to know what must be done, but the necessary work must be accomplished promptly and thoroughly. Camellias require more water and support than many growers of the plants appear to be aware of. Hundreds of plants in the country are in a semi-starved state. Provided the drainage of the pots and borders is efficient it is not an easy matter to give Camellias too much water during their season of growth, and something more than pure water is very frequently necessary. On the Continent weak and clear liquid manure made from cow dung is occasionally given to the plants, and their glossy foliage tells how greatly they enjoy it. "R. M. A." has recommended, and I doubt not with good reason, Standen's manure as an excellent application for Camellias. This fertiliser is not always at hand, and I will recommend another about which there can be little difficulty in obtaining at any time—namely soot. I have found soot particularly valuable in invigorating Camellias, and imparting to the foliage that rich dark hue which so greatly enhances the beauty of the plants. Spread on the surface of pots and borders, and watered-in thoroughly, soot can be employed not only with safety but with great benefit when the plants—as so many of them do—need a stimulant. When the collection of plants in pots is limited it is advisable to mix the soot in water and to use the liquid in a clear state as being less objectionable in its application; but when the plants are in large tubs or planted in borders top-dressings of soot and copious waterings will be found an effectual mode of preserving Camellias in health, especially if accompanied by the all-import-

ant condition of perfect cleanliness of the foliage; for if the leaves are encrusted with dirt, or the stems infested by insects, no applications at the roots can act beneficially.—NOMAD.

ROMAN HYACINTHS.

As early winter-flowering bulbous plants there are none more useful than these; they are such a pure white, so sweet-scented, lasting also fairly well, and they can be had in succession from the end of October till the other Hyacinths and Tulips can be obtained. But much depends upon how the Roman Hyacinths are grown to give them their fair share of favour. For example, when planted too thinly in pots they do not give satisfaction at their flowering season. One way that they certainly show well is by having about two dozen bulbs in a pan, so that when in flower the whole is just a mass of white. That mode of growing them is not applicable to every place, but it undoubtedly shows these "lovely miniatures" to great advantage. When grown in pans they can be staked so that the whole is in good form, the spikes rising from the edge to the centre of the pan. For cutting late in the year Roman Hyacinths are very good, as at that time flowers are not numerous. These Hyacinths have doubtless lost favour by not having been grown in the way that shows them to advantage. By having only two or three bulbs in small pots, and these when in flower set round a conservatory stage, though they be fairly flowered per bulb they make little show, and cultivators from such experience may be impressed to give up their cultivation; but when planted thicker or massed together the effect is very different, and equal to that produced by any other decorative plant of the season. When they come in flower in such a dull time they last long in beauty. They require little of either skill or care for their cultivation.

If a few hundreds of bulbs are procured late in summer one-fourth of the number might then be safely placed in pans. Ordinary soil, such as is used for bedding stuff, will answer well. A succession of bulbs may be put in at the interval of a fortnight or three weeks from the time the first batch was put in, and so on till the whole importation is potted. When potted they will do well under a covering of 6 inches of sand till they have grown a couple of inches, then they may be placed in a frame or light pit. If they are wanted early they will, if put on a shelf in a stove near the glass, very soon come on and do well. Each succession can be grown in this way till all are over. Provided good bulbs are obtained there can scarcely be any failure in growing Roman Hyacinths. Ordinary soil and a fairly good supply of water, other points being attended to, will bring about success. For conservatory decoration no flowers of their kind can be produced on shorter notice.—R. M. A.

JOTTINGS ABOUT ROSES.

In scribbling about Roses it is not the easiest task imaginable to avoid the track that has already been a hundred times traversed, and yet a pile of repetitions is what all scribblers ought to avoid.

It may reasonably be considered that we have had Rose selections and elections sufficient, yet I think there is just an opening for a few lines more, and I shall endeavour to supply them. Besides growing for exhibition there are thousands who grow Roses both in large and small quantities, and perhaps there are as many more who would like to grow them, and who, to commence with, would like to have a dozen that would supply to them the greatest possible amount of pleasure, and in, perhaps, their very contracted space. For such a purpose elections for exhibition are misleading. We may have sensational blooms, but, like angels' visits, few and far between. Marie Baumann does supply us with blooms superbly charming, but then, provokingly, here in the north, without occupying some highly favoured position, she stubbornly refuses to grow. Alfred Colomb, a real king where his realm is to his liking, but in cold smoky districts his smiles are obscured; you have him careworn-like, stunted. Amongst a dozen these are not of the Roses that give most pleasure.

Some years ago, when much more enthusiastic about Roses than I am at present, I took a seventy-miles trip to Leeds exhibition to see the blooms of some new varieties, and there for the first time I saw Baronne de Rothschild, and which, adopting the alphabetical order, I shall place first in my dozen. Charles Lefebvre is also a good hardy Rose, and either of these two, if in a thriving condition, will supply blooms calculated

considerably to add to our floral queen's admirers. The Duke of Edinburgh is a most pleasing brilliant flower, and (an additional quality) is admirable for a button-hole. Général Jacqueminot, if not so full in early summer as is desirable, he will make ample amends in autumn; then he sports his real fox-hunting cloth and in more plenteous folds. Regarding Gloire de Dijon, whose name accompanies all orders, or at least all orders for the first dozen, perhaps this very popular Rose has made more Rose converts than any other Rose, and I do think that there is nothing substantial to fall back upon save downright prejudice when we see our old almost evergreen friend's name excluded from the "best" forty-eight; in bud it is unsurpassed. John Hopper you must be sure to have. He is a good-natured accommodating old boy; he comes up again and again as blithe as a bee, and year after year. Louis Van Houtte is a very fine dark Rose. For Mlle. Eugénie Verdier I have a great liking. She is robust and keeps her box of points very much to herself. Her colour was, I think, quite new when she first made her appearance. Marquise de Castellane is a noble Rose—a real gem. Prince Camille de Rohan must be had if only for a button-hole; I vote it the most satisfactory dark Rose we have. Either Princess Beatrice or Princess Louise will please, but perhaps the former is the more robust. Next comes Sénateur Vaisse. This has been the best Rose I have had this season. I believe this ends my dozen, but I find that I have not named a white; well, I like Baronne de Maynard best of all the whites, a free and charming Rose. Then we must add two Moss Roses, they are very old favourites. Procure if possible the old common Moss for one, and the white Bath Moss grows very well. I have finished my lot save one, and with reasonable fair play I believe they will supply as much delight and as few disappointments as any other dozen that can be selected, and from either the newest or the lengthiest of catalogues. Of the one alluded to, this last summer its fine blooms supplied me with much pleasure; they were the renewed pleasures of old. I tended to and nursed the old York-and-Lancaster when a child forty years ago. How distinct its stripes are still! How strange that with such a foundation we have sent our old friend into obscurity, and to this day we have not been supplied with one distinct striped Rose as a substitute.—JOSEPH WITHERSPOON, *Red Rose Vinerie, Chester-le-Street.*

SPECULATIONS AS TO THE NATURE AND ORIGIN OF THE POTATO DISEASE.—No. 3.

As bearing on the subject of the Potato murrain the next disease to be referred to is the Phylloxera which attacked the Vine, and I cannot do better than refer to the Report of the French Commissioners appointed to inquire into this subject, and make an extract from it. "For some time several large vineyards in the south of France have been visited by a formidable and entirely new disease, and to which the Vines on which it has seized succumb as a rule at the end of the second year. This disease, the origin of which is unknown, appeared for the first time in the valley of the Rhône during 1864 or 1865, but it was not until 1867 that it had attained such a prevalence as to excite alarm. In 1868 and 1869, however, it had become a regular scourge. Then it was that those wholesale desolations of wide tracts of country were seen, and which appeared to be so much the more destructive because the first appearance of the evil had perhaps been overlooked. From this time the disease did not cease to spread, and it now rages from the department of La Drome to the confines of La Crau, more particularly on poor, dry, stony, and damp soils. The visible feature most characteristic of the new disease is the existence of a centre of attack in those parts which have been but a short time affected and which extends itself without intermission. The portions of the Vine which are contiguous to the tainted part let their leaves fall and grow yellower and yellower until they are quite dried up. When the seat of contagion has grown to a sufficient extent and when the disease is severe enough, instead of one there spring up several centres of attack. From the facts it has been generally remarked that the disease is propagated in two ways, progressively and intermittently. The gradual extension of various centres of attack of which we have just spoken shows us the first; their existence simultaneously at several far isolated points is proof of the second. The concurrence of many instances has taught us that the new disease of the Vine makes its way by irregular bounds, often abruptly appearing at great distances from the already ascertained centres of contagion.

When the roots of the afflicted Vines are examined it is easy to see that they have considerably altered in their nature, for they are always soft and rotten, and the tissues surcharged and without any firmness, yielding to the pressure of the fingers. These severe affections are due to a kind of insect which has been named the Phylloxera vastatrix. This insect, which is almost invisible to the naked eye, takes up its abode in the roots of the Vine and pricks them with its proboscis in order to extract the juices they contain. These repeated performances most likely irritate the tissues and produce hypertrophy. Until now there is not a single kind of French Vine which has not been attacked by this disease, but it is reported that there are some American varieties in the outskirts of Bordeaux which, although they have been surrounded by infected plants for three years, show no signs of suffering from the new complaint. According to the recently-made investigations the Phylloxera exists under two different forms—wingless and winged; it is not viviparous, but during the whole season and under both forms it only deposits eggs. They hibernate on the root of the Vine as wingless insects, and never in the egg condition. So long as the weather is severe they remain in a state of perfect torpor, but as soon as the warmth begins to make itself felt all those individuals which the cold and damp of the winter has spared begin to wake to renewed life. They feed with great avidity, and begin to lay eggs. The increase of them soon becomes terrific and never stops till October, and it is during this time that the Phylloxera works terrible havoc."

It will be observed that here is the introduction of a new disease not observed before 1864, and that the American Vines escape the attack, and that the insect appears to exist in two forms on the leaves and underground. The disease is supposed to have been of American origin; and if it only attacked the American Vines on the leaves and for some reason or other did not attack their roots, which appears to be the case, the insect might have existed there ever since the world began without doing any serious injury to the plants, but directly the insect came into contact with European Vines and attacked their roots the Phylloxera became a new disease.

Before we have been able to find a remedy for the old Potato disease we are threatened with another—the Colorado beetle, or American Potato bug as they call it. They call everything a bug: the woolly aphis, another American production which we could have very well dispensed with, they call the mealy bug. This insect is called the Doryphora decemlineata. The meaning of the first word is Sword-bearer, and of the last Ten-lined, from the number of stripes on the body; but I believe these stripes have to be carefully examined to be able to count the number. The eggs are deposited by the female to the number of about seven to twelve hundred at intervals during forty days on the leaves of the Potato in somewhat irregularly arranged clusters. In about six days they hatch into larvæ or grubs, and feed upon the foliage of the plants from seventeen to twenty days; then they descend into the ground, and after remaining in the pupa or mummy-like state to which the larvæ change for ten or twelve days, they again make their appearance as perfect beetles. In about a week the sexes pair, and in another week the females begin to lay their eggs; hence it is calculated that they can produce three broods per annum. Mr. Townsend Glover, the United States entomologist, says that if the progeny of a single pair were to be allowed to increase without molestation for one season the result would amount to over sixty millions. There are many other interesting facts known about this beetle which have appeared in various publications, but they need not be mentioned here.

The Doryphora decemlineata does not owe its origin to spontaneous generation, neither did it suddenly arise in consequence of any peculiar electrical state of the atmosphere. It has fortunately long been known to naturalists, and was discovered more than fifty years ago feeding on a plant called Solanum rostratum, a poor relation of the edible Potato, growing on the eastern slope of the Rocky Mountains, and there it would have rested until this day but for the gradual spread of the emigrant and the cultivation of the Potato, which afforded it the means to transfer itself from the uncultivated to the cultivated flower, and from the wilds of the Rocky Mountains to the cultivated plains, and from the eastern States of America to the western States, and from the western States to Canada, and from thence to Europe.

We have now seen how a plant and various insects have lately appeared in this country and on the Continent, and how rapidly they have spread over it and the injury they have

done; and if we can only conclude that the Potato disease is caused by the fungus, and that the condition of the Potato has little or nothing to do with the origin of it, we have only to transplant ourselves in imagination to the backwoods of America, not far from the Rocky Mountains, and believe in the existence of the fungus on several allied plants of the Solanum family, and see the emigrant for the first time plant the ground with Potatoes and watch the spread of the fungus from the uncultivated plants to the cultivated, and we should then have a way of accounting for the origin of the Potato disease which is more in accordance with known facts than several of the other theories which have been advanced.—*AMATEUR, Cirencester.*

P.S.—Since writing the above I have been able to procure a copy of "The Colorado Beetle," by Dr. C. C. Riley, State Entomologist of Missouri. He refers to the Canadian Boatweed as having extended to this country, and acknowledges the American origin of the Phylloxera vastatrix, and to my very great astonishment also admits the American origin of the Oidium Tuckeri. His book is about the Colorado beetle, and he does not refer to the Potato disease, but incidentally mentions the existence of about a dozen members of the Solanum family. The only missing links in the chain now are to prove the existence of the Potato fungus on the wild plants, and show that the disease existed not far from the Rocky Mountains at an earlier period than it existed elsewhere, and the case would be complete. This I hope to be able to do on a future occasion.

STOVE VERSUS FLUE.

In answer to Mr. L. Hakeman I must remark, it seems at least retrogressive to advocate the merits of heating by flue. However, let us compare notes, and we may then probably arrive at facts. In the first place I doubt the equality of our conditions. For instance, what is the position of Mr. Hakeman's greenhouse? what does he grow (a most important question), and when do his plants bloom? My conditions are—greenhouse in the centre of a paddock exposed to the full blast of north and easterly winds. Plants grown—Gardenia, flowering in December; Stephanotis, early spring; Roses in March; Azaleas in January; Gloxinias according to time started (I am starting some now); Clerodendron Balfourii; Oranges in full bloom in early spring. The foregoing I have grown with the greatest success both as regards size of flowers and health of plants, also Allamanda, Panicum variegatum, &c. Now, unless Mr. Hakeman cultivates the same varieties or others requiring similar treatment with respect to heat, I do not see how his argument in favour of a flue (especially as it is only carried once through the house) can hold good; though I do not doubt the efficacy of his method if simply the preservation of Geraniums and ordinary bedding plants is desired.

My idea in giving my Three Years' Experience was to advocate the culture of a class of plants seldom seen or even known by the majority of those who possess a greenhouse. My thought was to open up a new field of pleasure and interest, as it has been to me.

As to economy, of course the most economical mode is that which arrives at the same end with the least expenditure of time, labour, and money. Now, the time occupied in attending my stove is about fifteen minutes in twenty-four hours; the labour is very little, fuel being close at hand; expense £2 15s. for nearly a constant fire eight months in the year. As to temperature, I must confess I do not understand the meaning of 50° average; it might mean 20° at one time and 80° at another. The only way to arrive at conclusions is to state the minimum allowed. I seldom register below 53°. One more remark and I have done. I cannot help seeing that my advocacy of this stove seems like an indirect advertisement, which practice seems to me both mean and contemptible; I will therefore add that I have since had a stove constructed on my own plan, costing less, and with twice the heating power.—*RESPICE FINEM.*

KEEPING GRAPES.

I HAVE sent you a pair of zinc tubes such as I have in use for preserving Grapes in water. A hundred of them were employed last winter and proved satisfactory; double that number will be used here this season. As the plan adopted here differs considerably in detail from that described and figured at p. 336 I will endeavour to tell your readers something about it.

A shed facing north with a flue running through it, and with ventilators at both ends, so that a draught can be had right through if necessary, is the place we have for keeping them in; and I can scarcely imagine a better place for the purpose, unless it were a dry cellar where the outer atmosphere could not much affect the temperature.

We aim to have a steady fixed temperature as near as possible with constant ventilation; indeed just what suits

ripe Grapes in a vinery suits the Grape room—an even temperature and buoyant atmosphere. But the Grape room has advantages over the vinery, for in the latter the temperature rises rapidly with the least sunshine even when the air is frosty; but the Grape room is not affected by a little sun, and its temperature only rises a little when the general temperature of the outside air becomes warmer. The safety valve is a little heat and a little air constantly; for if the place is allowed to get cold and then to rise rapidly either by sun or fire heat condensation is sure to take place on the fruit, even if the air is as dry as it is possible to make it, and decay will speedily follow. On the other hand the place may be quite damp—it may, in fact, have almost a saturated atmosphere, yet if the temperature is kept even and the air buoyant the fruit will take no harm. It is not the

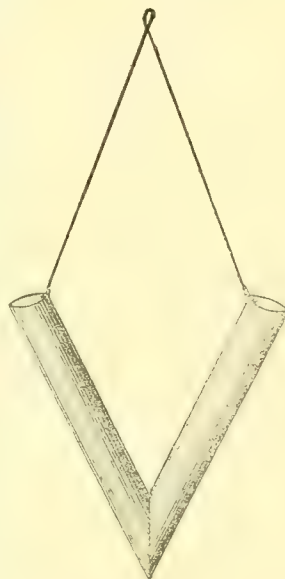


Fig. 80.

amount of moisture in the atmosphere which causes damping off with fruit, flowers, and tender plants: it is the sudden rises of temperature while the fruit, flower, tender plant, or soil around it is sufficiently cold to condense the vapour which comes in contact with it. By-the-by, plants in bottom heat do not damp off at the collar.

The tubes when filled are hung up near the roof on nails driven into suspended strips of wood. They are merely filled with clear water, just so full that they will not overflow when the stems are inserted. We do not cork the neck, as we find it unnecessary to do so, neither do we place charcoal in the water, as the water will keep perfectly sweet so long as the stem of the bunch is in it; but it gets bad very quickly if the stem does not reach the water, and we find it necessary to fill up the tubes every week, for the berries absorb a good deal of the water. I have not tested with the scales the difference in weight, but I have observed that berries often become considerably plumper after bottling.

I have had Grapes bottled and hung in a vinery—i.e., I have cleared one division and hung the cut fruit in another division containing ripe uncut fruit, and it did not keep so well as it does in a shed: the stems shrivelled as if shanked. I imagine that the light caused too much evaporation. They will keep perfectly well in the dark provided all else is right; the direct rays of the sun are decidedly objectionable.

The stems must not be allowed to shrivel; they should be placed in water immediately after cutting.—*WM. TAYLOR.*

[The twin tube referred to is very similar to one (fig. 80) which was exhibited before the Fruit Committee of the Royal Horticultural Society in 1872. Mr. Taylor's tube differs in tapering from the orifice (where it is a little more than an inch in diameter and slightly flanged outwards) to the base, where it is more than 2 inches, thus increasing its water-holding capacity. It is 6 inches in length inside the fork, and is a simple and effectual appliance for suspending Grapes in water.—*EDS.*]

JOHN ROSE.

You inserted an article on John Rose in the Journal for August 5th, 1875, No. 749, which contains nearly all we can ascertain about him, except that Switzer says also Lord Essex sent him to Versailles to study the gardens there, and on his

return he was appointed Royal gardener. Yesterday (November 19th) we observed the bi-centenary of the establishment of his school on November 19th, 1677.

I am anxious to erect a brass to his memory in the parish church where he first established his school, and there may be some of your readers who would like to help in a memorial to one "of the best of gardeners" and "a religious kindly man."

—ARTHUR W. PHELPS, *Vicar of Amesbury, Wilts.*

[If any of our readers would like to contribute a trifle to a brass in the church to Rose's memory they may send to the Rev. Arthur W. Phelps, Vicarage, Amesbury, Wilts.]

MR. RICHARD SMITH'S NURSERY AT ST. JOHN'S, WORCESTER.

PART III. AND LAST.

RISEING from luncheon I said, "And now what more have you to show me?" "Show you!" replied my host, "you have only seen one-sixteenth yet." I thought and said inwardly, "I can only take a very general view of those remaining fifteen parts, then." Turning to the left from the office I proceeded along that broad, straight, central path to the trees of ornamental growth and foliage. My attention was specially attracted to certain trees, the habit of which or colour is unusual. Thus there is the Crested Laburnum, very peculiar—like Broom grafted on Laburnum. A tree resembles the head of an Australian savage, but when in bloom a golden ball, on which the eye rests permanently with pleasure. Then there is the Weeping Purple-leaved Beech, very noteworthy. T. A. Knight saw in a bed of seedling Beech the original weeping Beech found, I believe, in this nursery, and hence this variety—a case of a man having eyes and using them. A word to young men readers—first inform your minds by reading up a subject, and then with knowledge gained by book in your heads keep your eyes open and learn more. An ignorant man's eye learns little. Read and know, look and examine, and know more. For instance, Andrew Knight knew the general habit of the Beech, and so his eye noticed a peculiar growth of that tree. The next tree I noticed was the Silver-leaved Poplar, the under part of the leaf a direct contrast to its upper side. This is a most elegant and perfectly hardy variety. Looking upwards when under such a tree one seems to be looking up into a canopy of glittering silver. The Scarlet American Oaks also struck me much. I measured a leaf, it was a foot long, and the colour of Virginian Creeper. I came next upon an acre of ornamental-flowering Thorns, destined to make gay many a garden ground and light up many a shrubbery with warmth and beauty. I passed by Limes ready for avenue planting, each to be in future years "a murmurous haunt of summer bees." I marked, too, the Fern-leaved Weeping Birch with deeply incised leaf. This a very graceful and ornamental tree, a beautiful variety of "The Lady of the Woods." The Fern-leaved Lime followed, and the Aucuba-foliaged Ash, all variegated, but their colours a little rusty from the lateness of the season. Not so the *Ulmus elegantissima* with its foliage, and fine in colour—a tree thoroughly worthy of its name, with its large silver-edged leaves. I passed variegated trees of every kind. There was the *Ulmus Kaki* from Japan, singularly graceful in habit, also the *Ulmus plumosa*, plumelike, with shoots resembling a Prince's Feather; this when grown near a walk would be very telling. Among Willows there was the Babylonian, ring leaved. Coming to the end of the walk I was reminded that I was near the metropolis of Hops, for there were 70 acres of them just beyond the nursery. Having taken this view of the trees of variegated foliage and ornamental growth, I can safely say that for number, variety, and healthiness of growth I never saw their equal.

Next I am shown the houses, and in passing through them I noticed that method and cleanliness reigned supreme; all in "apple-pie" order; workmen quietly and diligently labouring inside them. Concerning the houses Mr. Smith related these anecdotes:—He proposed to his father to build a propagating house 20 feet long, and this proposal was thought extravagant. Now among the many houses above 20 there is one 365 feet long. What a difference, and what a proof of success! To show which are the popular favourites of the four thousand Vines, one-half of all here are Black Hamburgs. Of the early cooking Apples one-half are Lord Suffields, and of the Plums one-half are Victorias.

The pit ground is four acres in extent, and it has in it two acres and a half of glass, and the pits are "cram full." In a Fern house I found twenty thousand plants in pots. I noticed

in a span-roofed house, in which were fruit trees in pots, there was a Vine 200 feet and more in length, carried round just where the perpendicular sides meet the slope of the roof—a hint for those who have a greenhouse but are afraid of the flowers being injured by the Grapes. Some of the houses contained Heaths in great numbers. Then there came the Camellia houses, then those for Chrysanthemums. The cleanliness of the houses was great. Three hundred thousand grafts are put under glass during the year. In spite of this great space yet the room has to be economised. Of course the ornamental-foliaged plants in pots are very numerous in a nursery famed for trees and shrubs of ornament. There were Golden Arbor-Vitæ, variegated Ivies, Aucubas. There were seventy varieties of Ivy, some of the variegated plants singular-looking, others pretty; others, like the Ivies, beautiful. There were twenty-four varieties of Virginian Creeper; there were many pots of that singular-looking, leafless, thorny thing, the Australian Bramble. In the Rose houses all appeared healthy and good-looking. Two hundred thousand Roses are sold annually.

Among the Ferns I found a new and very unique variety of *Adiantum farleyense*, having a deeply incised leaf. This is a sport, and is not yet in trade, but will be out some three years hence and cause a sensation. There were Japanese Maples in pots, rich in colour, and suitable for dinner-table decoration; and the new weeping Wellingtonia, very choice. My attention was next directed to the herbaceous department, which I am happy to say consists of as much as two acres. I am happy to say this because at one time it appeared, in the rage for rich bedding Geraniums, herbaceous plants would cease to be cultivated. There I noticed the autumn Anemone, a very good and valuable plant, whose flowers would look charming in ladies' hair. There, too, was Ribbon Grass fit to run-up banks, while the Phlox patch was dazzling with its rich flowers.

I am next taken into the packing-shed. Oh! the heaps of crates. Oh! the size of the place for straw. As a slight indication and evidence of the amount of packing and sending off trees and shrubs at the fall of the year, I am told that $1\frac{1}{2}$ ton weight of packing string is used annually. I see the cart-stables and carpenters' shops, for all things are made for the nursery at the nursery; thus carts and trucks are built there.

I go on to the flowering-shrub patch. I see the new evergreen Privet, good in growth and colour. Conifers at St. John's are, of course, very numerous, and among them shone out conspicuous in numbers and superb beauty the *Picea nobilis glauca*. This beautiful glaucous variety is a very model of beauty whether in small specimens or large, with its sea-green and yet silvery colour, a hue hard to describe, but most pleasing to the eye. In other parts of this vast nursery I come again upon trees of ornamental foliage. Thus there is the Purple-leaved Peach with its leaves in spring of a deep red colour; then the *Wolseyana* Willow beautifully pendulous, the Golden Queen Holly, most suitable for church decoration, and a new weeping variety (strange this in a stubborn upright-growing tree like a Holly—this is beautifully weeping and variegated); and then came the Purple-leaved Weeping Birch, a contrast to the Fern-leaved: in the former, colour; in the latter, grace.

But I must draw to a conclusion. My readers will easily understand that I might have spent a week instead of a day and a half in this vast and most interesting nursery—interesting in itself and its surroundings. The fine cathedral near, the rapid Severn still nearer, beyond the Malvern Hills. All about me historic ground; close by, twice over, were battles fought. High-born cavalier and sturdy parliamentarian met and showed on either side the stuff of which Englishmen are made. Houses were once near

"Wherein the younger Charles abode
Till all the paths were dim,
And just below the Roundhead rods
And hummed a surly hymn."

Mr. Smith's nursery is an indirect proof of the prosperity and refinement of the English people of this day. In war and in rude times men had no leisure, or care, or even thought for ornamenting their parks, and shrubberies, and gardens. There might be an exception here and there, as in John Evelyn; but there are hundreds of John Evelyns now—men, aye! and women in abundance who delight in the beautiful in tree and shrub, and who lovingly regard the form and colour of leaf and flower. Gardening best prospers in quiet rich times, as now

in England. Long may they last. I can only say that my informant was right—that St. John's Nursery "is a marvellous place," and as seeing is believing, now I believe, and must add that far from being overpraised it was the opposite. Mr. Richard Smith has brought honour upon horticulture, and lives surrounded by the respect of his fellow citizens, and has himself been honoured by the Lord Lieutenant of his county.

—WILTSHIRE RECTOR.

ROSE SHOWS.

I HAVE been much interested by the letter of "ONE OF THE PUBLIC" concerning the above; but as another of the Rose-loving public I should like to know for certain whether the statement that Rose shows do not pay is correct. I remember "WILD SAVAGE" speaking (in joke, I believe) of "4d. balance sheet," but I also recollect that someone else wrote directly afterwards saying that at Hereford the balance for the last two years was £3 odd and £14 odd. If this is a specimen of the general result (financial) of Rose shows I should think they do pay. I should like to hear what the Treasurers of the National, Crystal and Alexandra Palaces, and the Aquarium have to say on this point concerning this year's shows.

As to the nurserymen, they now have two serious charges laid at their doors. Mr. Hinton says they refused to help in the elections by sending lists, and thus advertise their ability to supply the chosen Roses; and now "ONE OF THE PUBLIC" says they will not exhibit at the shows except for excessive prizes; though it remains to be seen whether the present prizes are excessive.

There is one great hindrance to metropolitan and suburban nurserymen competing at the great shows which I should like to see removed, and that is that there are no classes provided expressly for them, and they have no chance in competing with growers with pure air and superior soil. The same remark, of course, applies to amateurs. At Birmingham there used always to be classes for residents within a few miles of the town, and also one for amateurs who had never won a prize; and at Hereford there is still a class or classes for residents in that shire only. I did not see at the shows this year a single exhibit, nor do I see one of the election lists, from a less distance than ten or twelve miles from London. Now, why cannot we have a class of twelve or eighteen trusses for amateurs, some of twenty-four or thirty-six for nurserymen residing within five miles or so of the City? I believe there would be a good competition in such classes, and as I suppose all exhibitors send their friends to the shows it would increase the interest and patronage of the public. I believe the National Rose Society holds its annual meeting early next month, let them set the example in their next year's show.

I see that what I have written looks like the grumble of someone who thought he was going to win a big prize and didn't, so I may just say that I never had enough of these beautiful flowers to be an exhibitor, but am only—A LOVER OF ROSE SHOWS.

P.S.—Can any of your correspondents tell me where in the vicinity of London I can obtain the Bracken that is recommended for the protection of Tea Roses out of doors?

SEASIDE TREES IN NORTH WALES.

FOREMOST for robust and strong growth must be placed *Pinus austriaca* (Austrian Pine). This is a true seaside tree, and should be extensively planted in exposed situations near the sea. Next comes the old Scotch Fir (*Pinus sylvestris*); this also stands the sea blast well. *Pinus Pinaster* grows crooked in the stem, which is a glaring defect, otherwise it grows freely enough. *Pinus insignis* is a true seaside Pine, more inland it is rather tender. It is very beautiful; the colour is unique. These are the best of the Pines that have come under my observation along this coast. Evergreen Oak (*Quercus Ilex*) is a valuable tree for seaside planting in the most exposed places. An enormous specimen of this Oak may be seen in the gardens of Ynysmaengwyn, Towyn, Merioneth; the huge branches at the time of my visit were supported by large props of wood. This is more than a mile from the sea.

Among deciduous trees the family of *Acer* is a valuable one, *Acer platanoides* (Norway Maple) being good; also the common Sycamore (*A. pseudo-Platanus*) and its variegated varieties. The different varieties of Alder (*Alnus*) also are suitable. The Poplars (*Populus alba*, *P. macrophylla*, and *P. fastigata*) also succeed. The Turkey Oak (*Quercus Cerris*) and its varie-

gated variety may be planted on the seacoast. In my last notes I omitted to mention *Hippophaë rhamnoides* (Sea Buckthorn) as doing well near the sea. In the foregoing list I have only named those trees and shrubs as doing well of which I have cognisance. Doubtless there are numbers of other shrubs and trees growing well near the sea in other districts which would be a boon to the dwellers by the sea if they were noticed in the Journal. No doubt some of your seaside readers could kindly supply this boon.—GEORGE COOKE, Nannan Park Gardens, North Wales.

ROYAL BERKSHIRE ROOT SHOW.

ALTHOUGH Mangolds, Swedes, Turnips, Kohl Rabi, &c., do not come within the cognisance of many of the readers of the Journal, yet there are departments of the Show connected with the garden which cannot fail to be of interest, while all may like to know that this year's Show has exceeded both in quantity and quality all previous exhibitions at Reading. Her Majesty the Queen, peers, baronets, and commoners, competed for the very handsome prizes offered. Although the season has not been favourable for the production of Mangold Wurtzel, yet twelve specimens were exhibited weighing 310 lbs., the heaviest weighing 40 lbs. Marvellous specimens of Swedes, such as Sutton's Champion Swede (for the prizes in which three thousand roots were entered), Imperial Green Globe, and Purple-top Mammoth were also shown.

There is one department of the Show which has steadily been increasing in interest year after year—that devoted to vegetables; and certainly the exhibits (comprising between twenty and thirty collections) this year were such as I have not seen anywhere this season. The first prize was awarded to Mr. Wildsmith, gardener to Lord Eversley, for a collection of great merit, and the second to Mrs. Crawshaw of Caversham. The vegetables that most impressed me were the "Matchless Brussels Sprouts," which indeed deserved their name; and the Golden Savoy, beautiful in appearance and excellent for the table. The Mushrooms in Major Thoyte's collection were the most even and perfect lot that can be imagined: they almost seemed as if they had been formed in one mould, so regular were they. The Reading Onions and Sutton's Snowball Turnip were also very fine; indeed it is difficult to particularise where all were so good.

Potatoes, too, were quite an exhibition in themselves, and certainly foremost amongst them comes out Sutton's Magnum Bonum, which for symmetry, productiveness, and quality seems likely to take a permanent place. Seventy sacks have been grown on half an acre of land, the tubers having been planted in May, and when lifted were entirely free from disease. Past experience should make us very chary as to speaking of disease-proof Potatoes, but unquestionably this variety has been singularly free from it. Mr. Fenn also exhibited a collection of varieties of his own raising; and I was happy to find that he is pursuing his intelligent and scientific crossing with even more ardour, and that we may shortly expect to see something in commerce worthy of his name, as one variety has passed into the hands of the Messrs. Sutton for distribution.

A curiosity was exhibited by Professor Buckman of the Royal Agricultural College—a small root of Mangold Wurtzel displaying the tap root, which had run down to the extraordinary length of 4 feet 6 inches.

The Exhibition was honoured on Friday at the private view by His Excellency the Chinese Ambassador and suite, who were much interested in it, and partook of luncheon with the Messrs. Sutton after they had inspected the Show.—LE ROI CAROTE.

DIONÆA MUSCIPULA.

I do not in the least degree blame Mr. Douglas for the statement in the *Journal of Horticulture* for November 1st respecting the *Dionæa muscipula* and the potting of Mr. Foreshaw's plants, although I still feel the statement does me a great injustice, and if Mr. Douglas will imagine himself in my position I am sure he would feel as I do—indignant. I cannot at all understand how Mr. Black could make such a statement to a friend of twenty years' standing. I cannot speak as to what Mr. Black says about the plants being much stronger this year than they were when Mr. Douglas saw them last year. I can only say that others think differently, and I know that when I exhibited the plant at Preston in 1873 Mr. Barnes, one of the Judges, pronounced it "the finest plant ever seen." I will close by saying that as I bought the *Dionæa muscipula* and grew it from 60-sized pots into a 15-inch pan I feel I have a just right in claiming all the credit due, and especially as Mr. Black, nor anyone else, never had anything whatever to do with Mr. Foreshaw's exhibition plants

during the five and a half years I was in his service.—EDWARD PAYNE, *Florist, Fulwood, Preston.*

MR. E. PAYNE, late gardener to Mr. Foreshaw, has made several mis-statements in reference to Mr. Douglas's notes on the treatment of the above plant as supplied by me. Mr. Payne had no acquaintance with me while I held a gardener's situation; he never to my knowledge saw either the place nor the collection of plants I had under my care, consequently he did not know whether I ever grew the Venus's Flytrap or not. The "many" years he has known me is exactly four years this month.

The notes published by Mr. Douglas are the results of practical experience. Anyone who may wish to grow the Venus's Flytrap may have good results if the few directions given in Mr. Douglas's notes are followed out. Mr. Payne has exhibited a pan of *Dionæa* at the Preston Horticultural Exhibition on several occasions in good condition, being on each occasion much admired. Mr. Payne has left Mr. Foreshaw's service fourteen months back. Mr. Leazel, Mr. Payne's successor, has shown the same pan at this autumn show much finer than ever it has been seen before. I question if a pan of *Dionæa muscipula* was ever exhibited in finer condition.—L. BLACK, *Fulwood, near Preston.*

[This subject need be discussed no further.—EDS.]

CARNATION AND PICOTEE CULTURE IN BEDS.

THE following notes on the method of growing these choice varieties of florist flowers in beds have been kindly sent to me through Mr. George Rudd of Bradford from Mr. E. Adams of Swalwell, near Gateshead:—"When the ground has been well prepared by trenching I plant in November or December when the weather is favourable. Each plant must be supported by a neat stick to prevent injury from high winds, which are apt to snap off the plant close to the ground. The plants will stand any amount of frost without injury. It is a good plan to dress the surface of the beds with decayed manure from an old hotbed, which serves to steady the plants; this also serves to prevent frosts from lifting them out of the ground. Much better blooms are produced from plants put out now than in the spring. The plants do not require any more attention except tying the spindles to a stick. When the pods are nearly full I put them up on a board fixed to a post in the ground, and cover with a bell-glass. This causes the flower to open well, but it must be shaded with thin paper or muslin. When the ordinary garden soil is not suitable for the plants the beds should be made up with decayed turf from an old pasture, mixed with some sweet manure from an old hotbed or the sweepings of a cattle market, laid-up for a year before using it. Avoid pig manure, as it causes the plants to canker. Frequently stirring the surface soil in the beds is good practice, and if the plants require water give a good soaking, and do not water again until it is actually required. When the grass is layered in autumn draw some of the old soil from around the plants and replace it with turfy loam in which to peg down the layers; this gives them new vigour. Sprinkle daily to prevent flagging, and when the plants are well rooted remove them from the parent and place them in their blooming beds as before." We do not find the Carnation do well in beds in the south, but there does not seem to be any reason why they should not if they are well cultivated and as much care taken of them as our Newcastle friends seem to take of their flowers. The following are the best sorts to cultivate in beds:—*Scarlet Bizarres*: Admiral Curzon, Lord Napier, Lord Raneliffe, John Burnett, Mercury. *Crimson Bizarres*: Black Diamond, Rifleman, Isaac Wilkinson, William Murray, John Harland, Albion's Pride. *Pink Flakes*: Dr. Foster, Earl of Stamford, James Douglas, Lord Derby. *Scarlet Flakes*: Mr. Battersby, Sportsman, James Cheetham, Superb, William Harland. *Pink and Purple Bizarres*: Sarah Payne, Satisfaction; also all the rose flakes and all the Picotees.—J. DOUGLAS.

NOTES FROM CORNISH GARDENS.

MOUNT EDGCUMBE.—PART 2.

TRUE English lawns, thickly set with grass kept low and compact by frequent mowings, stretch onwards from the Italian garden along the edge of Plymouth Sound, with a boundary of shrubs well back inland, winding along in graceful curves, with an occasional fine tree or shrub group standing out in

worthy prominence upon the turf; onwards most pleasantly to wooded walks and drives, to which I must take the reader by another route. Left to myself I should probably have wandered on along the path by the sea, but the same sure guide and friend who had accompanied me in all my Cornish wanderings was there, and he pronounced it time to make for the house. Promptly following his decision came a summons to the hospitable board of its noble owner, and so my demurrer was quashed and I had to acquiesce, willingly and yet unwillingly.

On our way across the park I saw some of the turkeys, which ramble at will in the woods here, and which were, I believe, part of the only flock of what may be termed wild turkeys in this country. The flesh of these wild birds is considered superior both in delicacy and flavour to that of an ordinary farmyard turkey. Fine trees abound here—grand old Limes upwards of 100 feet in height; Beeches, Chestnuts, Oaks, Cedars, and red-stemmed Pines equally fine in their way; and a huge old Poplar must have been quite 8 feet in diameter at 4 or 5 feet from the ground. Consummate taste had evidently been brought to bear upon their arrangement, for the result now that they were old and hoary was satisfactory in a high degree. At some points dense umbrageous masses of foliage gave depth of colour and shade; at others specimens of extraordinary size stood out singly either alone, or in avenues, or in widely dispersed clumps in all the dignity and fair proportions which are found in timber trees that have sustained no check and have attained their fullest development of form as well as of stem and branch. It is such fine trees, too, that embellish a glade down which one looks from the east front of the house over the water to Mount Wise, Devonport, the rolling country beyond, and the far-off Dartmoor Tors—a singular yet not unpicturesque combination of town and country.

Other charmingly diversified views over the Sound and Plymouth open out as we proceed to the south front, where we found a flower garden worthy of especial notice for its simple yet chaste design and the happy way in which the planting was done, the centres of the beds being filled with perennials such as Heaths and Phloxes mingled with dwarf flowering shrubs, with flower belts of the ordinary bedding type around them, the effect being novel, light, and so pleasing as to be worthy of imitation. This garden is overlooked from the house and also from a stone summer house standing above it on a higher slope, for the grounds ascend somewhat abruptly here, walks winding among shrubs enclosing various lawns, out on which stand fine trees, imparting a peculiar character to each enclosure. Take for example the Cedar lawn with its eight magnificent old Cedars of Lebanon, possessing an air of dignity, repose, and striking individuality which is never found in a mixed pinetum of the ordinary type—the huge massive boles, the salver-like branches rising above each other tier above tier, the wondrous depth of green relieved so strikingly by the sunlit edges, were prominent features in every tree. Wonderful trees! worthy of the situation as it was worthy of them. My inspection of them was a brief one—a glance, a walk past beneath their dense shade, and away; but in those brief moments I received impressions deep and lasting, and learnt lessons of such value that it was only subsequently after quiet thought and close analysis that I was able to grasp their full significance. Such trees rivet the attention so thoroughly that one takes little heed of their surroundings; yet I noticed that enclosing belts of trees and shrubs lent shelter by their compact and dense arrangement, and imparted grace by the flowing curves their margin described. Without noticing the other lawns in detail I may state that all contained peculiar features—objects of uncommon size or form. One had a gigantic Lucombe Oak, another an equally fine Lime with an immense bole having curious indentures and rugged rib-like projections; another a fine Catalpa, a Tulip Tree, and a Maple side by side on a slope, all fine trees, and which for a brief period in autumn must afford a picturesque contrast, the foliage of some becoming a bright yellow and the others dying red; another an extraordinary Himalayan Bamboo (*Taamnocalmus Falconeri*), which it may be well to note is often catalogued as *Arundinaria falcata*, also a *Desfontania spinosa* about 6 feet high in bloom, but I regret to say showing incipient traces of decay. A series of such enclosures connected in an informal manner impart variety, exclude cold winds, and thus afford shelter for many a choice exotic. It is a plan worthy of adoption wherever it is desirable to lay out gardens upon high, exposed, or bleak situations.

From the house past these lawns and shrubberies a road termed the Terrace Drive winds along the face of the steep slopes of the mount, which tower high above it and sweep downwards to the sea, at some places precipitously and at others in a series of irregular undulations, along under the shade of lofty trees—very lofty trees shutting in the drive like an avenue at some places and at others opening out into glades down which are charming views of the sea; past Fern-clad banks and grassy openings fringed with an undergrowth of Rhododendrons, the pleasant greenery of which is seen on all sides among the trees. Fresh features come into view in quick succession as we drive past all too quickly: here above us towers a steep precipice with Ferns and trees clothing its face right up to the top, yonder down by the water is a fort nestling picturesquely among the trees, and not at all grim-looking; and now we enter an avenue of Ilex lofty and dense, with more Ilex clustering above them on the upper slopes, not

a formal avenue, but with occasional breaks and openings through which the sea comes fully into view far down below, and the thought involuntarily arises, Are we in England or in Italy? for surely in no other part of the world has this bright scene its counterpart, except it be on the shores of the Mediterranean. The precipitous mountain side, the Ilex avenue, the soft balmy air, the blue flashing waves alive with white sails of ships and pleasure yachts, and above all the clear bright sunny sky, all were in keeping with such an idea, which was strengthened as we drove onwards through a Pine grove consisting entirely of Pinasters—grand old trees with clean straight boles branchless from the base upwards almost to the top, presenting the aspect of just so many stately massive rugged columns, most of them probably fully 80 feet high, and many of them 4 or 5 feet in diameter. Very few of them are quite erect, almost every one leaning more or less; but then none are prostrate, and they will yet weather many of those fierce



FIG. 81.—MILTON'S TEMPLE—MOUNT EDGUMBE.

storms and sweeping gales that they have hitherto withstood so stoutly.

In the Pine grove, which extends along the slopes for a considerable distance, the road branches downwards to a pretty cottage in a snug nook by the rocky shore, and upwards through the trees to the open park, where upon the very summit of the mount and on the verge of its cliffs stands the picturesque kiosk. We enter and find an appropriate climax to our drive in the glorious view which bursts upon us as the shutters are opened. Right down below is the famous breakwater with its lighthouse and fort. Yonder lies Drake's Island, and across the Sound is Plymouth, with an irregular rugged shore and high cliffs at many points. Outside the breakwater is the open sea, and in the distance is a dark object standing up, dimly and indistinct, in a bank of mist that is stealing over the water, but even that faint glimpse is sufficient to rivet the attention, for we know that it is Eddystone. Many other objects were there, all contributing to the life and beauty of the general effect; but on these I must not dwell, nor had we much time to linger over the enchanting scene, for in the most absorbing moments that six-something train which we had to catch over the water at Plymouth would keep coming to mind, and so away down the famous zigzag walks—not driving now, right down the face of the cliffs among the trees, pausing for a few minutes to look at a curious little garden made in a snug nook apparently

excavated out of the face of the hill, rich in choice exotics—Mimosas, Camellias, Fuchsias, Olives, Aralias, and an Eucalyptus full 30 feet high, all flourishing in a state of semi-wildness, and certainly forming not the least striking feature of this wonderful place. Down, down among the trees till we are close by the sea, and along a pleasant walk which leads to the amphitheatre, a vast semicircle of lofty trees with a temple dedicated to Milton (fig. 81), containing a bust of the poet and an appropriate inscription from the fourth book of "Paradise Lost"—

"Overhead up grew
Insuperable heights of loftiest shade,
Cedar, and Pine, and Fir, and branching Palm—
Aylvan scene; and as the ranks ascend,
Shade above shade, a woody theatre
Of stateliest view."

The inscription is truthful in its application to the spot, and is as appropriate as is the temple itself, for although so near the sea and in sight of the terraces of Plymouth, yet there is an air of quiet seclusion—of stateliness that grows upon one as we pause to contemplate the singular scene, for the trees are all of extraordinary size, and impress us as being perfectly gigantic as they range upwards "shade above shade" on the steep hillside.

These notes of Mount Edgumbe must not be regarded as at all exhaustive or complete. My inspection was necessarily

a hurried one, and I have touched upon the most salient points only—sufficiently so, however, to show that the gardens, park, and woods are all very beautiful, that the situation is romantic and uncommon, singularly favourable to the growth of many exotics as well as of most native plants and trees; and it is matter for congratulation that these advantages are turned to such good account, not in a speculative manner, but with an aim and purpose worthy of the noble owner and creditable to those who so ably carry out his wishes.—EDWARD LUCKHURST.

ARALIA FILICIFOLIA.

THE plant now figured is familiar to those who have visited the chief horticultural exhibitions of the year. It is a very

state it has the appearance of a sheath, and from the centre of the leaf rises a white star-like flower, fickle in duration but beautiful in passing away. Where there is a large rockery this plant ought to have a prominent position. In the spring garden there should be one bed at least, and in the borders large patches. It is perfectly hardy in our climate, but often suffers from the cutting winds in the spring, and is all the better for having a little shelter afforded by a few branches of evergreens stuck round them. It is an acquisition in early spring in the greenhouse. *Sanguinaria canadensis* has an offspring in *Sanguinaria grandiflora*, but the only difference is in the habit of the latter being more robust and larger than the former.

They are increased by seed sown in spring in well-drained pots of rich light soil. They require care in a young state,



Fig. 82.—ARALIA FILICIFOLIA.

elegant plant, and the stems are of a deep olive colour blotched with pale green. The leaves are dark green, glabrous, twice pinnately divided, with a single lobe at the end. The pinnae are about eight in number on each side of the midrib, each one being divided nearly to the base into linear, minutely saw-toothed and spine-pointed segments. The younger leaves are more finely cut than those first formed. It forms a pretty subject for dinner-table decoration on account of its extreme elegance. This plant was introduced by Mr. B. S. Williams from the South Sea Islands, and is of free growth and easy culture.

OUR BORDER FLOWERS—POPPYWORTS.

THE Poppyworts are a numerous family. One of them is the Bloodwort (*Sanguinaria canadensis*, or puceon), named from the blood-like juice which the plant yields on being bruised. The plant has tuberous roots having red fibres, throwing up from each bend a beautiful glaucous fig-like leaf. In a young

and must be kept free from damp. A cold dry pit is a suitable place for them. They are propagated also by division in the autumn. To grow them successfully they require a free open soil; good sandy loam, and well-decomposed vegetable matter with a little peat and charcoal, suits them admirably. A moist but not wet situation will meet their requirements. They enjoy the sunshine, but will bear partial shade.—VERITAS.

CONCERNING ROSES.

"WHAT Roses shall I buy?" (page 378). Buy good Roses that will grow, bloom well and freely, and live on. Buy out of the list on the page quoted Baronne de Rothschild, Madame Victor Verdier, Charles Lefebvre, Alfred Colomb, Marguerite de St. Amand, Dr. Andry, Marquise de Castellane, Comtesse d'Oxford, Sénateur Vaisse, and Duke of Edinburgh. Add these, or some of them: Star of Waltham, Madame C. Joigneaux, Gloire de Dijon, Céline Forestier, Triomphe de Rennes—three of the best in the Rose kingdom—Edward Morren,

Jules Margottin, Vicomtesse de Vezins, Pierre Notting, Maxime de la Rocheterie, La Ville de St. Denis, Mdle. Marie Rady, Princess Mary of Cambridge, Baronne Prévost, Dr. Jamin, William Griffiths, Pierre Letetzky, Paul Neyron, Lord Clyde, Baronne Adolphe de Rothschild, Abel Grand, Duchesse de Caylus, Maurice Bernardin, Fisher Holmes, Madame C. Wood, Mdle. Annie Wood, Prince de Portia, Maréchal Vaillant, Souvenir de la Reine d'Angleterre, Felix Genere, Comtesse Cecile de Chabillant, John Hopper, Duchesse d'Orleans, and Prince Camille de Rohan. The above are Hybrid Perpetuals, and are all good.

Bourbons.—Acidalie, Souvenir de la Malmaison, Sir Joseph Paxton, Baron Gonella, and Baronne de Maynard—a lovely Rose, always in bloom.

China.—Mrs. Bosanquet.

Two of the finest Roses are Louis Van Houtte and Maréchal Niel, but they are not generally recommendable for the public.

Do not buy these; they are generally bad growers, but beautiful: Marie Bauman, Francis Michelon, Emilie Hausburg, Marquise de Mortemart, Mdle. Marie Cointet, Horace Vernet, and Mdle. Bonnaire. If you cannot get straw you cannot have corer.

Do not go to shows to choose, but go to the nurseries or the gardens of large growers. The election would deceive the elect! Look at the positions of some in the election—Gloire de Dijon, 59; Pierre Notting, 38; Maurice Bernardin, 59; Madame C. Joigneaux, 70. They are four of our best Roses! W. F. RADCLIFFE, *Okeford Fitzpaine*.

AUTUMN SHOWS.

AMONG exhibitions which have recently been held we are able to furnish reports of the following:—

KINGSTON-ON-THAMES AND SURBITON CHRYSANTHEMUM SOCIETY.

This newly organised Society held its first Exhibition at the Drill Hall, Kingston, on the 21st and 22nd inst., and was a decided success. The Drill Hall is a very large building, admirably adapted for a show, but requiring extensive collections to occupy the space ornamentally, which, owing to the Society having no limited radius, was easily effected, and the competition was in most of the classes very spirited.

Prizes were offered for groups of an unlimited number of Chrysanthemum plants to fill a space of 50 square feet, which brought together four collections; and to Mr. W. Bates, gardener to W. H. Punchard, Esq., Twickenham, the post of honour was awarded for a collection very tall but of first-rate quality. Mr. J. W. Moorman, gardener to the Misses Christy, Coombe, was a remarkably close second with plants dwarfier in habit and effective. Mr. Cornhill, gardener to J. S. Virtue, Esq., Weybridge, was placed third. In the class for six trained specimens Mr. Beckett, gardener to J. McConnell, Esq., Esher, exhibited an admirable collection, and was deservedly awarded the first prize for well-grown examples of White Venus, Guernsey Nugget, Mrs. G. Rundle, Bronze Jardin des Plantes, Venus, and Mrs. Sharp. Mr. Cornhill, and Mr. Ploughman, gardener to J. Wilkes, Esq., Weybridge, were second and third respectively; and in the class for four specimens Messrs. Masters and Boxall of Walton shared the honours between them. Trained standards were not plentifully represented, and Messrs. Masters, Cornhill, and Boxall were the only contributors.

Cut blooms were very numerous shown in the different sections, and were above the average of the present season. Six competitors entered the class for twenty-four incurved varieties distinct, and the first prize fell to F. Wildman, Esq., Camberwell, for a well-finished and neat collection comprised of Prince Alfred, White Globe, Nil Desperandum, Guernsey Nugget, Prince of Wales, Jardin des Plantes, Queen of England, Venus, Mrs. Mary Morgan, Beverley, John Salter, Princess of Teck, Hero of Stoke Newington, Golden Beverley, Lady Slade, Mrs. G. Rundle, Mrs. Dixon, General Bainbridge, Mrs. Halliburton, King of Denmark, Eve, Princess of Wales, Empress of India, and Mr. G. Glenny. Mr. Cornhill was here placed second; Mr. McPherson, gardener to S. Page, Esq., Surbiton, third; and an extra prize was awarded to Mr. Moorman. In the class for twelve cut blooms eleven collections were staged, and to Mr. Hinnell, gardener to F. A. Davis, Esq., Surbiton, the Judges awarded the first prize; Mr. Bentley, gardener to Sir T. Gabriel, Wimbledon, the second; and so exceedingly good were others, that prizes were awarded to Mr. Masters, Mr. Boxall, and Mr. Ploughman in this class.

Japanese varieties were extensively shown and very good. Messrs. Hinnell, Moorman, and Cornhill were placed in the order here named for twenty-four varieties, and Mr. Beckett, Mr. McPherson, Mr. Bentley, and Mr. Boxall for twelve, while Mr. Attrill and P. Sutton, Esq., shared the honours for six varieties. We have not seen the Japanese varieties shown in

greater numbers or in better order anywhere this season than at Kingston. They make a very attractive display, and deserve further encouragement. The best of the varieties shown were Fair Maid of Guernsey, Elaine, Bronze Dragon, James Salter, Red Dragon, Rob Roy, Chang, Gloire de Toulouse, Sultan, Meg Merrilees, Ne Plus Ultra, Oracle, Fulgore, Fulton, Striatum, and Grandiflorum.

Mr. Moorman was awarded the first prize for twelve reflexed Chrysanthemums with good blooms of Triomphe du Nord, Dr. Sharp, Cloth of Gold, Christine, Monsieur Lucien Barthéle, &c., and Mr. Beard and Mr. Cornhill were placed second and third; and in the class for twelve Anemones Messrs. Cornhill, Masters, and Moorman were placed in the order named. Several collections of Primulas, dinner-table plants, Cyclamens, and berry-bearing plants were staged, for which numerous prizes were offered. These plants, associated with the cut flowers, contributed materially to the general effect.

Messrs. Jackson & Sons contributed an extensive bank of stove and greenhouse plants, which formed one of the most attractive features of the Show. It was comprised of Tree Ferns, Palms, Dracænas, Crotons, &c., having Chrysanthemums, Orchids, and Heaths interspersed; they also exhibited several superior stands of cut blooms, including some very choice sorts; and Mr. Beckett an interesting collection of Geranium blooms. The show of fruit was limited. Mr. Hinnell also contributed a similar though somewhat smaller collection. Mr. Jackson, jun., who is the Honorary Secretary, is to be congratulated on the success of the Show, but another season it would be well to have a regulation standard for size of boards on which to show the cut blooms, and the effect of the Exhibition would thereby be much enhanced.

MAIDSTONE.

The Mid Kent Chrysanthemum and Fruit Show was held in the Corn Exchange on the 21st inst. Good as were the Chrysanthemums, the remarkably fine collection of Apples, Pears, Grapes, &c., was, perhaps, even more commendable, and the numerous special prizes awarded testified pretty plainly to the Judges' appreciation of this department of the Show. The large central stand in the Concert Hall was entirely occupied by Apples. Mr. L. A. Killick of Langley took the chief honours here, and was awarded a special prize for a separate box, which was in every way deserving of the distinction. Roger Leigh, Esq. (Mr. Haycock, gardener), was a successful exhibitor both of Apples and Pears. The Grapes formed a small but good class, Mr. C. Neve standing first with Black Hamburgs, and Messrs. T. & J. Hollingworth dividing the rest of the honours with Lady Downe's, and Madresfield Court. Some Grapes grown in the open air by W. Moore, Esq., of Wierton, were also deserving of especial notice. The floral contributions of Mr. S. Hubbard of Marden, and of Mr. Cannell and Mr. Frost, nurserymen, agreeably relieved the appearance of the tables in different parts of the Hall.

The prizes for ten large-flowering Chrysanthemums in pots were awarded to Mr. J. W. Braddick, Rev. C. Shepherd, and Rev. J. Stuart Robson, in the order named. For six plants of the same nature, first Mr. C. Neve, second Mr. J. Clabon; the Rev. J. Stuart Robson and Major Best equal thirds. The prizes for ten large-flowering standards were awarded to Rev. J. Stuart Robson and Rev. C. Shepherd. Cut blooms.—Twenty-four large-flowering, distinct varieties, first prize (silver cup), Mr. J. W. Braddick, second Rev. J. Stuart Robson, third Mr. Davis, Maidstone Cemetery. Twelve cut blooms, first Mr. J. W. Braddick, second Mr. Davis, third Mr. C. Neve.

For nine plates of distinct varieties of dessert Apples, first Mr. Roger Leigh with Ribston Pippin, Cox's Orange Pippin, Melon Apple, King of the Pippins, Braddick's Nonpareil, Manington's Pearmain, Blenheim Orange, Royal Russet, and Cornish Aromatic; second Mr. William Skinner with Cox's Orange Pippin, Ribston Pippin, King of the Pippins, Scarlet Pearmain, Court Penda Plat, Summer Golden Pippin, Warwickshire Pippin, and Golden Knob; third Mr. A. Warde. For three plates of dessert Apples, first Mr. F. Smith with Manington's Pearmain, Mabbott's Pearmain, and Cox's Orange Pippin; second Mr. A. T. Killick with Golden Knob, Warwickshire Pippin, and Ribston Pippin; third Major Best. For nine plates of distinct varieties of kitchen Apples, first Mr. W. Skinner with Belle Dubois, Blenheim Orange, Wellington, Cullen, Stone Apple (Loddington Seedling), Bedfordshire Foundling, Castle Major, Beauty of Kent, and Hanwell Scouring; second, Mr. R. Leigh with Belle Dubois, Belle Josephine, Wellington, Blenheim Orange, Linnaeus Pippin, Reinette du Canada, Calville Rouge, Calville Blanche, and Calville St. Sauveur; third, Mr. A. Warde. For three plates of kitchen Apples, first Mr. L. A. Killick with Loddington Seedling, Wellington, and Blenheim Orange, who had also the second prize with Wellington, and Winter Quoining; third Mr. J. Weld. For three plates of dessert Pears, distinct varieties, first Mr. R. Leigh with Duchesse d'Angoulême, Beurré Diel, and Triomphe de Judoigne, second Mr. J. W. Braddick. For three plates of kitchen Pears, distinct varieties, first Mr. J. W. Braddick.

CROYDON.

It is only a few weeks since the first mooting of an autumn show was hinted at in this locality, and considering the short notice a very good display was arranged at the Public Hall on the 22nd and 23rd inst. Specimen plants were not equal to others we have seen this season, but the cut blooms, also fruit and vegetables, were very good indeed; in fact the vegetables were the finest we have seen this season with the exception of some collections at the Crystal Palace in September.

The principal contributors of specimen plants were Mr. King, gardener to Stephenson Clarke, Esq., the President of the Society; Mr. Brett, gardener to Mrs. Charlton, Mitcham; and Mr. Jupp. For twenty-four cut blooms incurred, distinct, Mr. Orchard, gardener to F. W. Harris, Esq., Coombe House, Croydon, was awarded the first prize for a very neat and superior collection of White Globe, Princess of Wales, Jardin des Plantes, Queen of England, Princess of Teck, Prince of Wales, Mr. Bunn, White Venus, Eve, Capitata, Miss Mary Morgan, Lord Derby, Golden Beverley, Mr. Gladstone, Venus, Empress of India, Prince Alfred, Mrs. Halliburton, General Bainbridge, George Glenny, Abbé Passaglia, Mrs. G. Rundle, Le Grand, and Mrs. Dixon. Mr. King was a very good second, and Mr. Neal, gardener to E. Wormald, Esq., third with a very good collection. In the class for twelve Mr. Orchard was again to the front with good blooms of some of the varieties above named, and Mr. Neal and Mr. Brett second and third respectively. Mr. Chaff, gardener to C. H. Goschen, Esq., Shirley, staged a board of six admirable blooms of Jardin des Plantes, Princess of Teck, Queen of England, Bronze Jardin des Plantes, White Venus, and General Bainbridge, to which the first prize was awarded. Japanese blooms were contributed by Messrs. Neal, Orchard, and Brett, and the prizes awarded in the order named. Anemone blooms came from Messrs. Brett and Neale, and Anemone Pompons from Mr. Brett and Mr. King.

Mr. King was awarded the first prize for four Orchids with very fair examples of *Vanda tricolor*, *Cypripedium insigne*, *Calanthe vestita* oculata, and *Veitchii*. Several collections of Primulas were staged; the prizes were awarded to Messrs. Price, Brett, and King in the order named. Prizes were also offered for Poinsettias, the best coming from Mr. Neal, Mr. King, and Mr. Chaff, who were first, second, and third respectively.

Mr. Charman, gardener to C. W. Bond, Esq., received the first prize for a collection of fruit, and Mr. Chaff the first prizes for Muscat of Alexandria and Black Prince Grapes, Mr. Neal being awarded the second prize in both cases. An extra prize was awarded to Mr. Stephenson, gardener to F. Peck, Esq., for very fine Black Alicante Grapes. Apples were sent by Messrs. Chaff, Walker, and King, who were the prizetakers in the order named.

Nine collections of vegetables were staged, all of extraordinary merit. The first prize was awarded to Mr. Chaff for excellent examples of No Plus Ultra Peas, Walcheren Cauliflower, Sorymer's Brussels Sprouts, three sorts of Cabbages, Parsnips, Spinach, fine Veitch's Red Globe Turnip, Beet, Onions, Early Horn Carrot, Tomatoes, Paterson's Victoria Potatoes, &c. Mr. Orchard was placed second with a very good collection containing some very fine Cardoons, and Mr. Brett third. Several other exhibitors were highly commended, all showing well.

Messrs. Rollisson & Sons of Tooting sent a group of Chrysanthemums, which had a very pleasing effect; and Mr. King, gardener to Stephenson Clarke, Esq., contributed a very fine bank of fine-foliaged plants, completely filling the spacious platform of the Hall with Palms, Dracæas, very large *Adiantums* farleyense and scutum, the whole edged with *Erica gracilis* and *Panicum variegatum* mixed. To Mr. W. P. Robinson, the Secretary, is due in no small measure the success of the Show.

DARTFORD.

The seventh annual Show of the Dartford Chrysanthemum Association was held at the Victoria Assembly Rooms on the 21st and 22nd inst., and was quite equal if not superior to its predecessors. Specimen plants were very good, and were shown principally without that bad training the Chrysanthemum is so much subjected to. The display of cut blooms was also exceedingly good, an amateur (Mr. Hards) outstripping all the gardeners both for size and quality. His collection of twelve blooms were the best we have seen this season, and comprised very fine examples of Lady Hardinge, Empress of India, Golden Queen, White Globe, Queen of England, Prince Alfred, Barbara, Mrs. G. Rundle, Mrs. Dixon, Mr. G. Glenny, Nil Desperandum, and Prince of Wales. Mr. Hards practises the once-potting system, and removes his plants from a small state to a large one without any intermediate change; to this he attributes his success. Many other creditable collections deserve notice, but our space will not allow us to particularise them; suffice it to say it was altogether a good Show, and well managed by Mr. Skelton.

DIDSBURY.

This, the third annual Show of the Society, was held on the 24th inst. One of the prettiest plants to be seen at this season was exhibited—namely, a specimen of *Cattleya Trianie* with

seven spikes of beautiful rosy flowers. This was sent from the collection of G. Gottschalke, Esq., Fallowfield. Amongst the Chrysanthemums in pots it might be observed that the varieties of Cedo Nulli are yet unsurpassed for free flowering and general usefulness. For the best six Primulas, three red and three white, T. Ashton, Esq., showed a very fine set, doing credit to his gardener, Mr. Johnson. Epiphyllums were a good feature in this Show, the best being contributed by C. Blackburn, Esq. These plants are most showy in their season, either as small plants for table decoration or as large plants in the conservatory, and they are capable of being grown in so many ways, such as high or dwarf standards on the *Cereus* stock. There was a good competition for six pots of Roman Hyacinths in pots not exceeding 7 inches, about fourteen bulbs being grown in these sized pots. The first-prize Grapes—white, which were Muscat of Alexandria, and black, which were Alicante—were shown by D. Adamson, Esq., doing credit to his gardener, Mr. Brierley, who is also Secretary for the Society.

Amongst table plants, which were shown in half-dozens, the most chaste one in flower was an *Ixora Coleii*, about a foot high with seven heads of pure white flowers. This was in the first-prize stand, which was contributed by—Morris, Esq. Amongst foliage plants in this class *Cocos Weddelliana* and *Aralia Veitchii* were the most elegant. For the best four exotic Ferns J. Boland, Esq. (J. Fletcher, gardener), was first with four choice kinds and good specimens.

For the best eighteen cut blooms of large-flowered Chrysanthemums, which was the main feature of the Show, and in which there was a very good competition, Miss Ashton was first (H. Royle, gardener). The varieties were Prince Alfred, Golden Beverley, Novelty, Fingal, Princess of Wales, Prince of Wales, White Beverley, Mr. Howe, Lady Slade, Nil Desperandum, Jardin des Plantes, Miss Mary Morgan, Baron Beust, Golden Nugget, Queen of Beauties, Mrs. Halliburton, Lady Salford, Mrs. G. Rundle. This last-named kind next to the white Cedo Nulli might be said to be *AI* for pot culture for conservatory work. In the classes of twelve and six cut blooms D. Adamson, Esq., was the successful exhibitor.

For a collection of six distinct dishes of vegetables C. P. Henderson, Esq. (W. Oakes, gardener), was first with a good tray, in which were fine heads of Cauliflower, Mushrooms, Brussels Sprouts, &c. An honorary exhibit of eighteen cut blooms (Chrysanthemums) were by Mr. Faulkner, Woolton Hall, Liverpool, to which an extra prize was awarded.

FLOWER SHOWS, GENERAL AND SPECIAL.

As surely as ventilation, water supply, charity organisation, or some other subject crops up in the dead season in the *Times*, so when gardens are comparatively empty, plants at rest, and the days dull, does the subject of flower shows occupy the columns of the horticultural press. Faults are found, "high falutin" indulged in, suggestions made, and after all we fall back into the same grooves as before.

As "ONE OF THE PUBLIC" has given us his views anent Rose shows, may I be allowed to take a little wider range, and from the experience of many years in many places to express my views? I desire "nothing to extenuate or set down aught in malice;" there are only two flowers which I ever exhibit, and the Rose is not one of them, and I hope therefore to give an impartial view. Before entering on it may I be permitted to say, in reference to your correspondent's remarks at the close of his letter, that I have had the pleasure of the acquaintance of most of the leading nurserymen of the United Kingdom, and that I do not know a body of men less moved by mercenary (I use not the word in an offensive sense) considerations. Witness the manner in which the metropolitan nurserymen have supported through evil report and good report the Royal Horticultural Society, and only this year I had the real pleasure of meeting in the far south-west of Scotland two of our leading rosarians, and although they took the chief prizes the money could not half have paid them for their expenses and loss of time.

The ground that I take will be seen at once when I say that I do not believe there is a flower show in the kingdom, general or special, that pays—that is, that the "gate money" as it is called—the contributions of the general public, not only do not pay the prize money and expenses, but in most cases would hardly even pay the latter. Let me, then, divide flower shows thus—I. Metropolitan; (a) those held by societies, (b) those by joint-stock companies, (c) special shows. II. Provincial.

I. (a) With regard to the great shows of the Royal Horticultural and Royal Botanic Societies we have had painful experience for some years. When successful—*i.e.*, when there is a large attendance of visitors, it is evident that horticulture is not the magnet. Music of the first quality, the attendance

of some member of the Royal Family, or some distinguished foreigner, will do more to attract the multitude than the finest exhibition that could be got together. The Tuesday meetings of the Royal Horticultural Society are really to the real lovers of flowers as interesting as anything can be, yet how very few avail themselves of them, only those who take a real loving interest in flowers caring to go there; and what I hope may prove to be its revived fortune is more owing to the countenance given to it during the past season by Her Gracious Majesty than to the fact that there is now a genuine horticultural Council. (b) The shows held at the Crystal Palace, Alexandra, and Aquarium are not in themselves paying concerns. The attractions of these favourite places of resort are numerous, and on flower-show days care is always taken to provide a good play in the theatre, fireworks in the evening, German gymnasts, or something else that may allure visitors. Then they must be always held in the season, and generally on a Saturday, in order to catch those fashionable people who care but little for flowers except in the case of a nosegay, but who dearly like to see and be seen. (c) The influence that horticulture has on the general public in alluring them to flower shows may be seen, I think, best by regarding special shows, not that these ever pay or can be expected to pay. A subscription list is first made, a schedule is formed in accordance with them, something is perhaps supplemented by the joint-stock company, but I very much question whether the increased attendance in any case is equal to the amount of prize money, without taking into consideration the expenses incurred. Let me just state one fact to support this. The Metropolitan Floral Society held its exhibition for three years at the Crystal Palace. It ceased to be held there because it did not pay. I went then to try and arrange, and the late Secretary showed me their book of attendances. We compared the attendance of the same days of the week in the week before and the week after, and found that it did not make a difference of a thousand!—that is of £50. At this show many flowers were represented, and I should be very much surprised to find that where only one flower is shown that a larger result is obtained. It may be asked, "Why are the shows held?" The statement to me of the manager of one of these places this year will be the best answer. He had offered to have the National Rose Society there, and said to me, "You know I shall lose money by it." "Why, then, do you have it?" "We must cater for the public, and unless we have variety we cannot do so. Some things pay and others don't, but we must have them." The National Rose Society never expected their show to pay—that is, as I have explained, they did not expect the gate money to cover expenses, prizes, &c. They trusted entirely to the interest taken in the Rose by the public at large. Their confidence was misplaced; only about a thousand tickets were taken, and probably many of these by the friends of subscribers. They had hoped to have taken at least three times as much as was taken at the first National Rose Show eighteen years ago; in fact, not more was taken than on that occasion. As to nurserymen foregoing the prize money, I think that is rather too much of a good thing to expect. They subscribe liberally, they go to great expense in coming up to town, and the least that they can expect is, I think, liberal prizes to compete for to recoup them in some way for the outlay.

II. *Provincial Shows*.—I call to mind many of these excellently managed and giving great impetus to floriculture, but I do not think one of them is ever expected to pay. First of all a subscription list is made up, to which all the gentry in the neighbourhood subscribe, and then generally something is added to it, always a band, sometimes fireworks, a poultry show, dogs or cats, or, as at York, acrobats and all kinds of fair amusements; and even then when a wet day comes the hat has to go round, a certain amount is expected on the show day, and if that fails it must be supplemented some way. Reference has been made to the big prize offered at Wisbech, as if that entailed destruction on the society that set the ball a-going. I believe that prize was suggested by a very distinguished rosarian. It was, I think, a mistake; but the failure of the Show (which was not exclusively a Rose show) arose not from this, but from purely local causes. I can speak with authority here, as I have judged there several times.

Your correspondent complains that nurserymen do not exhibit more at these provincial shows; my wonder is that they exhibit so much. The Rose show season lasts but little more than three weeks. During that time three great London exhibitions, others at Exeter, Nottingham, Oxford, Hereford, Maidstone, Helensburgh, N.B., Newton Stewart, N.B., Reigate,

Chipping Norton, &c., are held, and sometimes two or three on the same day in different parts of the kingdom. What, then, can nurserymen do? A Rose show is not like a poultry show, where you can send your birds and get them back again. Either the nurseryman himself or his most trusted men, who are at that time wanted at home, must accompany them; and unless he has any reasonable prospect of getting some money back he can hardly be expected on the hope of a few stray orders to go to all places at great inconvenience and expense.

I am, therefore, forced to the conclusion that flower shows do not and cannot pay; but at the same time I am convinced that the love for flowers is so great amongst us that they will still be held. We must, I think, abandon all notion about the scientific side of horticulture being a paying concern; we have no occasion to indulge in high talk, but seriously and lovingly do our best to promote the interests of the pursuit we love.—*D., Deal.*

CHOICE HARDY PERENNIALS.

"A CONSTANT SUBSCRIBER," who has plenty of common plants, asks for a list of some two dozen choice, distinct, herbaceous plants that would be in flower from May to September. By a lucky chance I am able to help him, and this is how it came about. Last August I went to see the garden of "PHILANTHOS," and besides the wonderful collection of Cowslips and Primroses about which he has told us so much that is new and instructive, I found many hardy flowers grouped in beds and dispersed about the gardens, enlivening many a quiet nook and corner, for they were mostly in full bloom, and as I soon saw were as choice and uncommon as they were beautiful, and so I am able to furnish a list upon which your correspondent may place implicit reliance as containing precisely what he wants. It is, moreover, worthy of general attention, few gardens possessing many of the plants I will now proceed to enumerate.

Aquilegia chrysantha.—This is the most charming Columbine I have seen. Its flowers are a delicate shade of yellow, are borne in clustering heads about 2 feet high, not at all dense or crowded, but in a somewhat loose yet elegant manner. It was seedling freely.

Potentilla purpurea lutea plena.—This had numerous flowers, double, and of a deep, rich, glowing crimson. It is one of many varieties of a neglected genus that are worthy of a prominent position in every garden. I have a list sent me from a reliable source, in which upwards of fifty varieties are enumerated, ranging in colour through various shades of crimson, yellow, and scarlet. They form dense bushy tufts, yielding a succession of brilliant flowers throughout summer. *P. Menziesii* was also very gay with single flowers of a rich crimson shade; and *P. William Rollinson* had brilliant clusters of double orange-coloured flowers, which told well among the crimson varieties.

Armeria cephalotes, better known perhaps as Great Thrift, had a gay and sprightly effect with its abundant large compact heads of rosy pink flowers borne on stems about 18 inches high, which spring out of dense cushions of leaves some 4 or 5 inches in length. This comes readily from seed, but some of the seedlings have flowers of a more delicate shade of pink than the original type.

Sedum spurium.—A fine species of this widespread genus with bold corymbs of bright crimson flowers and large green foliage. It was in full beauty, and appeared likely to continue so for some time. *S. kantschaticum* formed an appropriate companion for *spurium*, being similar in growth but having a profusion of deep rich yellow flowers.

Dictamnus Fraxinella had handsome spikes of pale pink flowers with dark green foliage, closely resembling that of a Dahlia or of some of the broad-lobed Ash trees. I find the following useful note of it in the "Cottage Gardeners' Dictionary":—"This is one of the oldest and best border plants of our cottage gardens. Instances are known where the *Fraxinella* has outlived father, son, and grandson in the same spot without increase, all attempts at multiplying it to give away a rooted slip to a newly married member of the family having failed; yet the *Fraxinella* may be increased from seeds. Sow as soon as they are ripe in the common soil of the border, and cover 1 inch deep; they will not sprout till the following April. If they are kept over the winter and sown in the following spring they will remain twelve months before they sprout, and not one in a hundred sprouts at all. When the seedlings are

two years old transplant them where they are to remain, and they will flower the third season. They prefer a deep rich border on a dry bottom, and all flower in June."

Carex riparia fol. aur. variegata is both elegant and sprightly in its long, slender, Sedge-like growth, and its variegated foliage was pleasantly conspicuous among the flowers around it.

Heimerocallis fulva fol. argenteo-variegata is another plant which impressed me favourably from the beauty of its variegated foliage, which was long, elegant, and flag-like, beautifully striped with white.

Geranium pratense flore-pleno had a profusion of charming purple flowers of fine form—just so many miniature rosettes, and the foliage, too, was much serrated and of elegant form. This is quite a gem, and once established it requires little subsequent care. It is a native of Scotland.

Anemone japonica Honorine Jobert.—This was in great beauty with its bold spikes of lovely white flowers. It is a general favourite so well known that I need not dilate upon its many merits here.

Anemone japonica is the original pink-flowered species from Japan, whence it was brought some thirty years ago. It is well known, but is not so generally grown as it deserves. It is true its flowers lack the elegance and precision of form so remarkable in the white variety, but they have a sprightly cheerful air pleasant to behold, and, moreover, continue in beauty late in autumn. It is readily increased by division. From a tuft or two which I procured from an old cottage garden two years ago I have now a stock of several dozens.

Bocconia juddoensis.—A remarkably bold and striking plant, which was full 7 feet high, with long loose spikes of white feathery flowers, having orange-coloured stems with a soft pearly-grey bloom overlaying the orange colour. The foliage was much lobed, serrated, and was broad and handsome.

Rumex vesicarius.—A curious and very pretty plant about a foot in height, with dense clusters of seed-pods covered with a beautiful pink veining like regular network.

Liatris spicata is another desirable plant which had lovely mauve-coloured flower spikes about a foot in height. It comes well from seed, and has been known in this country upwards of a century.

Spiraea palmata was in great beauty, is deservedly a general favourite, and I cannot do better than append Dr. Hooker's description of it:—"By far the handsomest species of the genus hitherto imported, and certainly one of the most beautiful hardy plants in cultivation. The deep purple red of the stems and branches, passing into the crimson purple of the glorious broad corymbs of flowers, contrasts most exquisitely with the foliage, which in autumn assumes beautiful tints of brown and golden yellow."

Aconitum bicolor variegatum was prettily variegated; it has compact spikes of curious hooded flowers, white with a deep blue margin.

Allium scorodoprassum was conspicuous among several others of this genus on account of its very dark crimson flower heads.

Iris foetidissima.—Although this was not growing among the plants of which I took notes, it is worthy of a place, for its elegant, flax-like, deep green foliage is always ornamental, and its pendant pods of bright scarlet berries just now in full beauty brighten a border wonderfully in winter, besides being useful for a variety of decorative purposes.

Acanthus latifolius was flourishing and elegant. It is a fine plant, which comes well from seed and is well worthy of a place.

Phlox decussata M. de la Deansaye had large bold heads of finely-formed deep crimson flowers. Triomphe du Parc du Neuilly was another fine variety with slender heads of handsome flowers of a deep rosy-salmon hue. M. Rafarin was a much brighter shade of salmon with bolder flower clusters. P. Grady with flowers of elegant form, white in colour with pink centres in large bold clusters, must conclude my selection.

There are two other classes of plants worthy of places in such a choice selection, and these are the herbaceous Pæonies and the Pyrethrums, both having numerous and beautiful varieties.—EDWARD LUCKHURST.

NOTES AND GLEANINGS.

We have received the schedule of the tenth quinquennial INTERNATIONAL EXHIBITION, which opens at Ghent on March 31st and closes April 7th, 1878. The programme is very com-

prehensive. It is divided into three sections—namely, plants, for which 274 classes are provided; arboriculture and the culture of market plants and fruit; also arts and industries, making a total of 321 classes. The prizes consist of objects of art, gold, silver-gilt, and silver medals. The gold medals alone number 117. We can only notice a few of the chief prizes. A gold medal is provided by the King for fifty Azalea indicas, the Queen being the donor of a similar prize for twelve Tree Ferns. A gold medal value five hundred francs is provided by the federation of the Belgian horticultural societies for forty Palms, and an object of art of the same value is offered by the President of the Society, the Comte de Kerchove, for seventy-five plants in and out of flower, the contribution of the Comtesse de Kerchove being an object of art value three hundred francs for 150 Hyacinths. Gold medals of the value of 250 francs are offered by the members of the Council of Administration to nurserymen and amateurs for twenty Orchids, also for thirty Dracenas and fifty Rhododendrons. We note also that the English Van Houtte Memorial Committee provide two prizes for Belgian exhibitors of six stove and greenhouse plants of distinct genera, in the form of objects of art of the respective value of 250 and 125 francs. Mr. William Bull also offers three silver cups value fifteen guineas, ten guineas, and six guineas to Belgian exhibitors of twelve distinct species or varieties of plants introduced into commerce by Mr. Bull since 1873. We trust the promoters of this great Exhibition will be well supported at home and abroad, and that the response of horticulturists will be commensurate with the efforts made to ensure their countenance and co-operation.

—OUR readers will have noticed in our advertising columns an announcement of a NEW PEAS Criterion, which is being introduced by Messrs. Veitch & Sons of Chelsea. It is always interesting to know the origin of names. A correspondent informs us how the name was given to this new Pea, which, when known as well as it undoubtedly will be in a year or two's time, will be deservedly familiar to every gardener. The late Mr. John Standish devoted much attention during several of the closing years of his life to the raising of improved varieties of Peas. His principal object was to produce hardy early Marrowfats of fine quality. It was his custom annually to gather his horticultural friends around his hospitable table at Ascot, when Peas were at the best, to taste the new seedlings. On the occasion of the last of these gatherings a gentleman connected with Messrs. Spiers & Pond's "Criterion," in Piccadilly was present. The Peas submitted for critical opinion having been tasted at dinner and warmly approved of, Mr. Standish invited his guests to go into the grounds and see the Peas growing. Pointing out some rows of the kind which was considered the very best of all, he was asked if he had named it. "No," said he, "but I want a very good name for it, as I consider it the best Pea in cultivation;" whereupon one of the company (our correspondent) suggested the name "Criterion," which, being thought very appropriate, was at once adopted. It is described as an early Ne Plus Ultra, a description it deserves, and which says volumes in its favour. Having seen the Pea growing side by side with many other kinds, we can say it is very hardy and of excellent quality.

—THE GERANIUM HOUSE in Mr. Cannell's nursery at Swanley is in great beauty, and affords evidence of the value of the newer varieties of zonal Geraniums for winter decoration. Some of the varieties are finer in winter than in summer; David Thomson, for instance, which is now very striking. Others which are highly effective are Seraph, Alonzo, Lizzie Brooks, Miss Gladstone, G. Morlet, Fairest of the Fair, Circulator, Dr. J. Denny, Mrs. Lancaster, Livingstone, Jean d'Arc, Mrs. Leavers, Mrs. Wright, Corsair, Jealousy, Louisa, Gertrude, Mr. Chandler, Imogene, The Shah, and Ivanhoe.

—THE first prosecution under the Adulteration of Seeds Act, 1869, came before the Lord Mayor at the Mansion House on the 26th inst., when Mr. Thomas Strangeways, a seed merchant in Mile End, was fined £5 for the offence of killing seed, and £5 for that of selling the killed seed, and £5 5s. costs, or £15 5s. in all. Mr. Alexander Francis stated that he purchased sufficient of killed seed which if mixed in the proportion of half-and-half would sow about 1700 acres. Mr. Charles Sharp of Sleaford deposed that he, with Mr. Burnell, promoted the "Adulteration of Seeds Act," and he employed the last witness to make the purchases in question.

—WE have letters bearing testimony to the excellence of VEITCH'S AUTUMN GIANT CAULIFLOWER. Mr. Wilson, Claydon House, Winslow, states that he had 150 plants, and the heads

averaged 2 feet 6 inches in circumference. He describes it as a splendid variety; and Mr. Iddenden, market gardener, Ashford, states that he has cut a head 44 inches in circumference, yet very close and compact. Some of the finest heads we have seen were grown this year by Mr. Jones at Bentley Priory. They are remarkable examples of what must justly be described as one of the most valuable of autumn vegetables.

SINCE Mr. Baring's garden at Coombe Cottage was described on page 34 some important alterations have been made, which have added considerably to the completeness and usefulness of the glass structures. Some commodious, excellently arranged, and well-constructed vineries and pineries have been erected, also a Fig house, which are already occupied and doing good work. The houses have been erected and heated by Henry Ormson, Stanley Bridge, Chelsea. The heating is efficiently and economically done by flued saddle boilers, and all the pipes are on the same level; little or no difference is found in the heat of the flow and return pipes by this arrangement. The several houses are also well occupied. Young Vines are extremely promising; Orchids are numerous and in thriving condition, as also are ornamental-foliaged table plants and flowering plants. We never saw *Pleione maculata* in such fine condition, one pot containing about sixty charming flowers. *Odontoglossum cirrhosum* is showing strongly; the brilliant *Sophranitis grandiflora* is just expanding, and will continue in beauty for three months; and *Cattleya Dayana* and *Odontoglossum Roezlii* are very fine. Cut flowers, which are in great demand, are chiefly afforded by *Gardenias*, *Roman Hyacinths*, *Ixoras*, *Euphorbias*, *Eranthemums*, *Azaleas*, *Camellias*, *Scutellararias*, *Centropogons*, *Heliotropes*, and *Mignonette*. *Amaryllis sulcata*, Mr. Baker's fine variety, is also extremely effective.

AT the TAUNTON ROOT SHOW held on the 24th inst. Messrs. Kelway & Son's five-guinea silver cup offered for twenty roots of their Magnum Bonum Mangold was awarded to Mr. Carter of Huntspill, near Bridgewater, and their five-guinea silver cup for twenty roots of Kelway's Mammoth Swede was awarded to Mr. James Mead of Yarlinton, near Wincanton.

A FEW remarkable ORCHIDS are now flowering in Messrs. Veitch's fine collection at Chelsea. Foremost to notice is *Cattleya exoniensis*, Mr. Dominy's greatest triumph and brilliant memorial. The plant has thirteen expanded flowers and nine buds; and such flowers! one scarcely knows which to admire most, the soft delicacy or the intense richness of colouring which are combined in this fine variety. The sepals and petals are silvery blue, the lip bluish violet deepening to purple and margined with white, and the throat is rich orange, the margins of every part of the flower being beautifully fringed. Too much cannot be said in praise of this magnificent Orchid, which is worth a long journey to see. Its parentage is *Lælia purpurata* and the Sion House variety of *Cattleya Mossiae*. Near it is *Cattleya fausta*, the first seedling Orchid raised by Mr. Seden; the prevailing colour is reddish mauve, which has a rich effect by gaslight. It is the result of a cross between *C. exoniensis* and *C. Loddigesii*. A new *Cypripedium* of great promise is flowering. It is the result of a cross between *C. Dominii* and *C. Schlumieri*. In colour it resembles *C. Sedeni*, but the flower is much finer, the throat more spotted, and has, what *Sedeni* has not, long twisted tails. It has bright green arching foliage, and is of stately habit. Yet another new plant merits notice—namely, *Calanthe Sedeni*. All who know *C. Veitchii* know how valuable it is. The new variety is between that and *C. vestita*. It is larger than *Veitchii*, and is very similar in colour, but in addition has the white sepals and bold chocolate throat blotch of *vestita*. This fine new *Calanthe* is sure to become popular. *Chrysanthemums* are still gay; they have been grown in a more natural manner than during previous years, and the ordinary character of the varieties is the better appreciated.

A NORTHAMPTONSHIRE correspondent in writing to us on the effects of the late GREAT GALE, says—"My whole estate was strewn with fallen trees. They came down like nine-pins. A small sprinkling, too, of barns and cottages were considerably dispersed."

WE have, writes "OBSERVER," some very fine specimens of different kinds of HOLLIES, and the contrast between last season and this is most apparent. The difference between no berries and the trees being red over is very striking. Specimens of Hollies variegated and self-coloured, 30 and 40 feet in height and more in circumference, clothed with their shining foliage and their coral-like berries, are very attractive objects

during the dark days of winter, and will no doubt afford food for fieldfares, missel thrushes, and other of the feathered tribe.

THE annual ROOT SHOW of Messrs. Edward Webb and Sons was held at Wordsley, near Stourbridge, on the 20th inst., and was in every way successful. There were 1308 entries against 1272 last year, and £300 was offered by Messrs. Webb in cups and other prizes. The whole of these prizes are given for roots grown from their seed. Among the more prominent exhibitors were Her Majesty the Queen, the Duke of Sutherland, the Duke of Portland, the Earl of Craven, the Earl of Denbigh, the Earl of Dartmouth, the Earl of Stamford and Warrington, the Earl of Warwick, Lord Lovatt, Lord Hampton, Lord Northwick, Lord Moreton, Lord Leigh, Lady Ward, Viscount Hill, Sir George Chetwode, Bart., Sir H. S. Stanhope, Bart., Col. Dyott; Messrs. C. Combe, W. D. Foster, T. H. Farrer, W. L. Beale, Joseph Beach, Samuel Robinson, W. T. Carrington, Joseph Palley, and T. Jowitt. The principal feature of the Exhibition was the specimens of Webb's Imperial Swede, in which class there were 496 entries. The heaviest single roots shown were—Imperial Swede, 23½ lbs.; Yellow Globe, 36½ lbs.; Long Red Mangold, 44 lbs. There was a large attendance of visitors.

IN the reports of the chief London flower shows "Mr. Roberts, gardener to W. Terry, Esq., Peterborough House, Fulham," frequently recurs in the prize list. We recently had a "bull's eye" view of MR. TERRY'S GARDEN, and were much pleased with the appearance of the houses. The collection of medicinal and official plants is extremely interesting, and Orchids are very numerous, and are steadily improving in health under Mr. Roberts's care. Stove and greenhouse plants are also well managed, and forcing is ably conducted, Cucumbers and French Beans being provided "all the year round." It is pleasing to notice, too, that old border flowers are cherished; but to appreciate these a daylight visit is necessary. This we hope to have on a future occasion, when more particular note can be taken of many things that are noteworthy in this well-appointed and excellently managed garden. Amongst the plants that cannot be grown are Violets, the London fogs being fatal, or nearly so, to these esteemed flowers; neither in pots nor borders can they be made to flourish during the winter at Peterborough House.

THE most highly-flavoured MADRESFIELD COURT GRAPES that we have tasted were grown by Mr. Burnett at Deepdene. They are grown on the Black Hamburg stock, on which Mr. Burnett states they never crack with him. They are of splendid quality. We should be glad to hear of the experience of others who have grown Madresfield on Black Hamburg roots. Mr. Burnett finds, also, that Royal Muscadine is an excellent stock for Mrs. Pince's Black Muscat. He has forty bunches on two rods, which are very fine and are better coloured than we often see this Grape.

DURING the October of 1876 rather more than 237,000 cwt. of Potatoes were imported, but in the same month of the present year nearly 1,100,000 cwt. have been imported.

THE mild autumn weather, writes a Yorkshire gardener, appears to put things out of season. We have here a fine old plant of SCORPION SENNA (*Coronilla Emerus*) nearly a mass of bloom. Its beautiful yellow-tinged-with-red flowers in the sunshine give it a charming effect. It began flowering in early summer and continued in beauty for a length of time, and now with renewed vigour it is making an effort to cheer us on the eve of winter. He urges the more extensive cultivation of this plant for indoor decoration. The plants succeed in any ordinary soil in well-drained pots supplied with water as they require it. When not wanted they can be plunged in the reserve ground till wanted.

ORANGES are being imported from the Brazils. This is the first year, says the *Mercantile Gazette*, in which any important quantity has been brought to this country, great difficulty having been previously experienced in getting the fruit in sound condition. This has, however, to some extent been overcome by care in gathering, packing, &c. The quality of this Orange is said to be extremely fine, being ripe and sweet, which no European Oranges are at the present period of the year.

OWING to frequent showers and a prolonged period of mild weather, WINTER GREEN CROPS have recently grown with great rapidity. Broccolis are luxuriant and succulent, and consequently in considerable danger should frost come sud-

denly and severely. Spinach, autumn-sown Cauliflowers, and Lettuces are also growing fully too quickly. A check with the spade—partially lifting the roots of such crops, is often useful in arresting their luxuriance, and thus rendering them somewhat better able to resist the first onslaught of winter. Weeds grow as fast as vegetable crops, and it is a moot point whether they or slugs are just now the more troublesome. Lime, soot, and guano are real gardeners' friends—the molluscs detest the mixture, and the crops enjoy it.

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

HARDY FRUIT GARDEN.

To the ordinary observer there is much sameness in the appearance of the fruit garden during winter; to the uneducated eye the buds, branches, and outlines of the trees present the same monotonous effect; not so to the ardent fruit cultivator. As he walks round his trees he can note the changing buds swelling during mild weather, those that are plump and roundish showing the quantity of blossoms that may be expected on the trees. Then there are certain small details of the work that require to be seen to. A stout sharp knife is useful to cut out superfluous wood. The eggs of *Bombyx neustria* (lackey moth) may be found glued to the small branches in clusters. The caterpillars of the goat moth may also be traced by their borings, like wet sawdust dropping out of a puncture in the trees. A good plan to destroy them is to crush them by the insertion of a pliable wire. We have seen both Elm and Apple trees destroyed by this pest to the fruit cultivator. They will bore into the hardest wood, and if not destroyed in time they work in a zigzag direction to the centre of the tree, and a wire will not follow them into such distant retreats.

During the present mild weather we are busy looking over all the fruit trees and pruning them. After this is done the ground underneath will be mulched with manure. Gooseberry and Currant trees will also be pruned as soon as possible. Many readers of the Journal who have such trees and bushes are probably ignorant of the methods to be employed in pruning, or the way it should be performed. It is very difficult to describe this, but the main idea of the cultivator is to thin out the wood freely in the centre of the Gooseberry and Currant bushes, so that the sun may be able to act beneficially on the leaves and fruit. Red and White Currant bushes do well when the young wood is cut closely back to the main stem, except the leading shoot, which may be left about 6 inches long, more or less as it is intended to increase the size of the bushes. A large proportion of the young wood may also be cut from the Gooseberry bushes. Those growths that may be allowed to remain have merely the points taken off them, but they must be well thinned out, else the produce will be inferior. It cannot be too widely known that good fruit cannot be obtained from trees where the wood is thickly placed.

Many persons cannot get out of the custom of inserting Strawberry runners thickly in beds and planting them out after they have formed a considerable quantity of roots. Those who have done so may now plant out while the weather continues mild. The plants will continue to grow except during frosty weather.

Plantations of Raspberries may also be made now. A damp shady part of the garden answers well for them, but to have plenty of good fruit the ground must be deeply trenched, working in plenty of rich manure. After the plants have been put out mulch round the roots with drish frame manure. All newly-planted trees should be mulched. Instructions have been previously given as to the best methods of training the wood. Old plantations should be heavily manured. The manure is best wheeled on to the ground in frosty weather. It will not do to dig the ground until it is thawed.

PEACH HOUSES.

It is now time to start the earliest house, and if previous instructions have been followed out all the woodwork and glass will have been washed clean, and the walls limewashed. The branches also should be washed with soapy water, especially if thrips, red spider, or scale should be in the house. The young wood should be carefully washed so that the fruit buds may not be injured during the operation; the old wood that is not furnished with buds should be dressed with the mixture recommended for Vines. All the wood must also be in its proper place before forcing commences, and it must be tied to the trellises in such a manner that the bearing wood is distributed evenly all over the space devoted to it. The borders should be well watered to start with, but the temperature must not be too high at first; if the weather is cold with frosts at night, 40° to 45° ought not to be exceeded. Should the weather be mild a minimum of 55° may be maintained without any artificial heat. The trees may be gently dewed overhead on the mornings of fine days, but it is undesirable to have the atmosphere of the house loaded with moisture.

CUCUMBERS.

The critical period for these is now approaching, but if the appliances at command are adequate for the occasion, and if the plants have been managed as previously directed, there will be no difficulty in satisfying any reasonable demands. Our own plants are in excellent health, and are now beginning to bear fruit; the growths are not too close to each other, so that the leaves are exposed to all the light possible. The night temperature ranges about 65°, less or more according to weather, but we do not like the temperature to fall below 60°. Every day, except during keen frost winds, the lights at the top of the house have been moved down an inch or two to cause a circulation of air. This may be done about 10 a.m., and the house be closed at 2 p.m. It is not desirable to have a very moist atmosphere, but this must be regulated to some extent by the heat that it is necessary to maintain in the hot-water pipes. Thrips have appeared on the leaves, but successive fumigations with tobacco smoke destroy them.

FIGS IN POTS.

We have not done well with these during the past season, the reason being that the plants were under Vines and standing at a considerable distance from the glass. We have always succeeded best with Figs when the pots could have a gentle bottom heat and be grown in span or hip-roofed structures, the plants close to the glass, and nothing to shade them from the sun. We have just turned the plants out of their pots, and repotted them in rich heavy loam with a fifth part of decayed manure; as was to be expected from plants that had made weak growth there was little root-action. We will try and get the plants into a house where they can grow and fruit freely next season. It is evidently not worth the trouble to try to grow them under Vines, better throw the plants away than have them languish out a miserable existence.

GREENHOUSE AND CONSERVATORY.

One of the most useful plants for late autumn or winter flowering is the *Statice profusa*. We have plants of it now covered with flower spikes, some with them fully expanded and others in various stages of development. A large plant in flower now will improve until midsummer. The white corolla in the centre of the flower will drop off, but the blue portion of the flower will remain in the state that *Everlasting Flowers* are when gathered. It is subject to mildew, but dusting the leaves with sulphur destroys this parasite. The flowers mentioned by "VISITOR" in the notes of Mr. C. Turner's nurseries, Slough, should be in every collection—viz., *Browallia elata* and *Salvia splendens*. They are quite as easily grown as zonal *Pelargoniums*. The plants may be placed out of doors during summer and autumn, removing them into the greenhouse in September or as soon as there is danger of injury from frost. Indian *Azaleas* are now at rest, and the old leaves are dropping off. These should be removed out of the way; perhaps it is best to burn them, as this beautiful flower is too often infested with thrips, a lively little insect that cannot easily be destroyed when it has been allowed to increase rapidly. There is no better plan than to continue to fumigate with tobacco smoke until they are destroyed. We have taken in the earliest pots of Tulips, Hyacinths, and *Polyanthus Narcissus*. The pots are well filled with roots, and they have been placed on a shelf near the glass, where they have just a little artificial heat, but plenty of fresh air is admitted when the weather is fine.

Cyclamens which have been until now in a cold pit have been removed to a warmer place near the glass. The flowers, which are showing in hundreds, will thereby be hastened, and we shall be glad of them in a few weeks. This is now a generally cultivated and most useful plant, and the great variety in colour and quality of the flowers have been much increased during the last few years. It is necessary to be careful in watering the plants at this season. The water should be poured in very gently near the rim of the pot. If it is dashed into the centre of the plant probably many of the flower stalks will decay.

Tree or Perpetual-flowering *Carnations* are now very useful for arranging amongst *Azaleas* or other hardwooded plants. When arranged in such a way that the *Carnation* flowers slightly overtop the plants named they have a charming effect. These are everybody's flowers, they are so easily grown. Out-of-doors culture suits them best until it is too cold, when they are brought indoors, and by that time the flower buds are formed, and the dry air of the greenhouse causes the blooms to open freely. A variety nearly white named *Empress of Germany* is a beautiful flower. The choicest *Orchids* cannot be placed before it. What a contrast to it, too, is *Scarlet Defiance*; the brilliance of this flower is quite dazzling. Then there is the freest-flowering variety we have with flesh-coloured flowers—*Miss Joliffe*. *La Belle* is a very good pure white flower, and we have in *King of the Belgians* an excellent pink-coloured sort; the edges are beautifully fringed, which in the estimation of some adds to its beauty. The flowers will open with additional freedom if the plants are placed in a house with a drish atmosphere and a temperature of 50° or 55°.—J. DOUGLAS.

TRADE CATALOGUES RECEIVED.

Dick Radclyffe & Co., 129, High Holborn, London.—*Catalogues of Vegetable, Flower, and Garden Seeds, Dutch Flower Roots, Trees, &c.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

APPLE-TREE BARK CANKERED (*A. B. G.*).—The roots have descended into an ungenial subsoil; if so, they should be cut through and manure spread on the surface to induce rooting in that.

RECTOR'S WIDOW (*Old Subscriber*).—She can take away all the potted plants if first introduced by her husband, and the incoming rector ought not to object to her taking cuttings of the herbaceous plants.

CELERY WORM-EATEN (*A. A. M.*).—Apply successive waterings of fresh lime water.

TRANSPLANTING ROSES (*Idem*).—You may transplant your Briars budded last August with perfect safety now.

ROSE MOSS DE MEAUX (*Idem*).—We much fear this charming old favourite is lost, as none of the "Rose" nurserymen name it in their catalogues now.

CETERACH OFFICINARUM (*Idem*).—This Fern is somewhat difficult to establish in new quarters. Fill a pot half full of drainage and the remainder with a mixture of one-third loam and two-thirds of broken bricks, make a little mound in the centre, upon which place your plant, water sparingly and carefully for a time, keeping it in a cool frame or under a bell-glass in the coolest part of your conservatory.

VINES FOR A COOL VINERY (*Rass*).—Three of Frankenthal and one Black Alicante; and as you require four white you cannot do better than plant two Buckland Sweetwater, one Early White Malvasia, and one Royal Muscadine.

INSECTS ON ROSES (*F. W. T.*).—Immerse the infested roses in pots in a strong decoction of Fowler's insecticide, afterwards washing them with pure water. If they are too large for immersion lay them on their sides and syringe them thoroughly with the solution.

WINTERING GLOXINIAS (*Hortus*).—Place the pots on a shelf in a vinery at rest or in any place where frost is excluded, and do not let the soil become dust-dry, but give a little water twice or thrice during winter, shake them out, and repot in spring. Notes on Clematises will shortly be published.

ILLUSTRATED CATALOGUE (*Mrs. H. B.*).—The leaf you sent is from Messrs. Dick Radclyffe & Co.'s Catalogue. There are many other illustrations in it besides those you have sent.

PORTABLE ARNOTT'S STOVES.—We have many inquiries for these, and about their cost, fuel consumed, &c. Makers would benefit by advertising these particulars.

ROSE CUTTINGS (*A. C.*).—November is a good month in which to insert the cuttings out of doors of those hardy varieties that are usually propagated in that way. We presume you intend the Briar cuttings to be inserted on which to bud Roses for bedding. We do not think that a good plan. It is best to plant Roses on their own roots for bedding.

VETCH MEMORIAL PRIZES (*Belfast*).—When arrangements are made as to who will be eligible to compete they will be duly advertised.

ROSE DEVONIENSIS NOT GROWING (*Idem*).—It is very liable to be attacked by mildew, and this will account for the reddish-brown spots on the wood and leaves. This parasite should be destroyed on its first appearance. If you cut *Maréchal Niel* as closely as you propose it will not produce nearly so many flowers. If you desire a large quantity of flowers you must not cut the young wood back severely, but then the plant will shade the greenhouse too much. You can only get rid of the maggot boring the leaves of your *Clematis* by bruising them between the finger and thumb.

HEATING SMALL PIT (*A Subscriber*).—One brick flue run along the pit within a foot of the front wall will give sufficient heat.

HALF-HARDY AMARYLLIS IN POTS (*A. J.*).—When grown in pots these plants do die down during their period of rest. They should be kept rather dry at the roots during that time.

SHORT-STALKED CELERY (*F. I. Radclyffe*).—The length of stalk is determined by the kind and the culture. We should manure more liberally and water abundantly during dry weather, and give liquid manure twice a week. We have seen the plants drawn up a good length by 4-inch drain tiles enclosing them, and is not a bad plan in wet soil, the space inside the tiles being filled with sawdust around the Celery, the tiles being raised as occasion may require when earthing. The Celery being good though short indicates that more liberal treatment only is required.

CAMELLIAS INFESTED WITH THRIPS (*Cold*).—The leaves of the Camellia and the narrow-pointed leaves—certainly not those of *Stephanotis*, being more like *Garcinia intermedia*—are infested with thrips, which may be destroyed by fumigation with tobacco, the atmosphere being very much too dry to cause so serious an infection. The smaller leaves have on the under side next the midrib some brown scale, which should be cleaned with a sponge and a solution of soft soap, 4 ozs. to the gallon of water. Both the plants would be the better of a thorough cleaning by sponging the soap solution on both surfaces of the leaves. There is no mealy bug or traces thereof. After sponging syringe the plants with clear water.

PACKING FRUIT, FLOWERS, AND VEGETABLES (*Young Gardener*).—For sending by rail fruit is best packed in boxes made of half to three-quarter-inch deal, and so deep as to hold one layer of each kind of fruit only, with sufficient space for a little stuffing below and over the fruit. Grapes, Peaches, Nectarines, Plums, Pears, and choice Apples are first wrapped in tissue paper, and are then placed in the boxes with a little bran beneath them. The box is filled closely one tier deep and more stuffing added so as to fill up the interstices and the box, the chief thing being to have the whole compact so as to prevent the fruit moving. The lids are secured with screws. Great care is necessary in handling Peaches, which we wrap in

cotton wool or wadding in addition to the tissue paper. Strawberries are packed one layer deep in their own leaves, each fruit in a leaf. Preserving or culinary fruits are best packed in small wicker baskets. Flowers are best packed in tin boxes, which may be 3 or 4 inches deep, or have trays so as to accommodate three or more tiers of flowers. A little damp moss is placed at the bottom; the stem of the flower is wrapped around with a little wadding immersed in water and the water squeezed out as from a sponge, and the flower covered with tissue paper, and in the case of Camellias with wadding; they are then placed rather tightly in the box in layers, the chief point being to have them tight without crushing; some cotton wool is placed over them, and a tray or the lid is put in or on. Note, the wool must not touch the flowers, but be kept from them by tissue paper, as it sticks to some flowers and absorbs moisture from those with smooth petals. The flowers should be cut in the morning, and ought to be dry when packed. Vegetables travel well in hampers, it not being desirable to have them too large. Ours vary in size from one to two bushels; one midway of those we find most serviceable. Cooking Apples and stewing Pears travel well in hampers with hay or straw around the sides, packed in layers with straw or hay between each.

MALFORMED PEAR (*Dalton*).—We have seen similar deformities. The small Pear issuing from the eye of the larger Pear arose from an extension of the growing axis called a profliferous growth.

ROSE CULTURE IN CHALK SOIL (*A. S. M.*).—Drain the soil thoroughly, dress it heavily with rich farmyard manure, which take especial care to blend thoroughly with the soil, and you will succeed. We infer that you allude to a soil resting on chalk, such as is found upon the chalk hills of Kent. You need have no hesitation in planting Roses upon Briars in soil where, as you say, Hops and fruit trees appear to thrive splendidly. The common Briar abounds in hedgerows upon the chalk hills, and some years ago we remember budding many hundreds of such, which were very robust, and formed large bushy heads quickly.

REMOVING SHRUBS AND TREES (*T. S. R.*).—If your *Cupressus Lawsoniana* was "well prepared last spring" for removal you may safely transplant it now. Decayed leaf soil is very suitable for placing round the roots. See that the roots do not become dried during the process of removal, and secure the specimen from injury by high winds. The Mulberry may be moved now, placing leaf soil round the roots as you propose, but it would be much safer to prepare it now and remove it next autumn.

BRITISH SHOW (*Inquirer*).—Special certificates were awarded to Mr. Stephenson, gardener to E. Peek, Esq., Roby House, Sydenham Hill, for Black Hamburgh and Black Alicante Grapes.

GRAFTING VINES (*J. W. Lever*).—The Sheffield correspondent has left his residence, and we cannot obtain his address.

CUTTING HOLLY HEDGES.—"An Observer" writes that he finds the spring the best season for the operation, and we consider that that season is to be preferred.

DRAINING PEAT SOILS (*T. V. M.*).—The best directions we know are in the second volume of the Royal Agricultural Society's Transactions.

GLAZING WITHOUT PUTTY.—"E. W. R." and others wish to know if any of our readers have adopted this mode of glazing and have found it successful.

MELONS FOR EARLY FRUITING (*Novice*).—The best green-flesh for your purpose is Gilbert's Improved Victory of Bath, and the best scarlet-flesh Turner's Scarlet Gem. You must sow the seeds early in January and maintain a temperature of 65°; the fruit will if other circumstances are favourable ripen in the end of May. What are usually called "inch bones" are better for a Vine border than dissolved bones, being much more lasting.

SELECT LARGE-FLOWERED AND ANEMONE CHRYSANTHEMUMS (*G. C.*).—*Large-flowered*.—Aurea Multiflora, Barbarea, Empress of India, Eve, General Bainbrigge, Golden Beverley, Hero of Stoke Newington, Jardin des Plantes, Lady Hardinge, Her Majesty, Mrs. Geo. Bunde, George Glenn, Prince Alfred, Prince of Wales, Princess of Wales, Venus, Mrs. Dixon, Princess of Teck, and White Venus. *Anemone-flowered*.—Acquisition, Georges Sande, Empress, Prince of Anemones, Glück, Queen Margaret, Mrs. Pethers, Lady Margaret, Princess Louise, Sunflower, King of Anemones, Fleur de Marie, and Louis Bonamy.

PHYLOXERA ON VINE (*C.*).—The root has all the appearance of having been attacked by this insect. There are traces of the insect, but that is all. Did you not observe peculiar excrescences upon the under sides of the leaves as well?

PRUNING VINE (*A New Subscriber*).—You do not say what sort of wood the Vine has made; but you would do well to leave the young wood in places where there is space for lateral development, and when lateral growths are formed cut back to a good eye. Read "Seasonable Notes on Vines" on page 412. Look out also for directions in "Doings of the Last Week."

NAMES OF FRUITS (*L. R. Lucas*).—1, Aston Town; 2, Swan's Egg. (*J. M.*)—Martin Sec. (*R. P. J.*).—Name not known. (*Col. E. T. C.*).—Trumpington. (*S. W.*).—Eldon Pippin. (*Keymer*).—1, Northern Spy; 2, Beauty of Kent; 3, not known; 4, Claygate Pearmain; 5, Hollandbury; 6, Kingston Black. (*J. Woodliffe*).—1, Pinner Seedling; 2, Fomme de Neige. The Pear is *Ne Plus Meuris*. (*W. Taylor*).—1, Ashmead's Kernel; 2, Sturmer Pippin; 3, Golden Russet; 4, not known. (*W. P. B.*).—1, Beurre Diel; 2, Nouveau Poiteau. The Apple is Court of Wick.

NAMES OF PLANTS (*M. Ambleside*).—The specimen imperfect. It seems to be *Linum trigynum*, Three-styled Flax. (*Stirling*).—We have not seen the specimen to which you refer. Send again when the plant is in flower.

POULTRY, BEE, AND PIGEON CHRONICLE.

RABBIT TROUGHS.

The question of Rabbit troughs occupies a far more important place in the economy of Rabbit-keeping than is generally assigned to it. During the last few years important improvements have been made in the construction of hutchers and other matters of detail, but in a few noteworthy exceptions the ordinary Rabbit trough has scarcely undergone the slightest alteration. It is strange that so little interest should be taken in such a subject, seeing that as a rule Rabbits waste rather more food than they eat; but this loss could easily be avoided by the

adoption of a suitable trough. Then, again, a Rabbit frequently refuses its food, and loses its flesh simply because the food, which may be of the best quality, is improperly served. The time has passed when it was considered that anything would do for a Rabbit, and fanciers have learned or are beginning to learn that economy in small things is a necessary adjunct to success. Below we give several specimens of Rabbit troughs, some original, and some improvements of the kinds now extant.

The commonest troughs are square or oblong boxes without any protection, and saucers or flower-dishes. The former are soon destroyed and made obnoxious by the Rabbit squatting in them. The latter are much worse. All the inhabitants of the hutch, young or old, seem to consider them lawful places for reposing in, and, moreover, to look upon them as improvements in the sanitary line. It is not long before any food in them is converted into filth, and if not remedied the Rabbit will soon lose health.

The best and simplest kind of trough is perhaps that made of zinc and wood, the former forming the trough itself, and the latter the side pieces. The zinc should be bent into a semi-circle, the half tunnel thus formed to be 9 inches long and $3\frac{1}{2}$ inches across the top. The side pieces should be made square so as to keep the trough from falling over. There will now be a feeding dish capable of holding enough food for half a day for a doe and large litter of young. If left as made it would not be economical, as the food would soon be scratched out and the Rabbits get into the trough. To remedy this, bore four holes in the zinc opposite one another, and lace them with copper wire of a good thickness. If laced across one another so as to form a kind of latticework it will be best, but care must be taken to leave apertures large enough for the nose of a large Rabbit to go through, but too small to allow a young Rabbit to crawl between. The wires should be laced at each passing for extra strength. To affix the zinc to the wood it is best to cut the former longer than necessary, and turn half an inch over at each end, which can be nailed to the wood with tacks. A good carpenter could make it watertight, but an amateur hardly could, and it should hence be used for dry food only. A trough of this description will not cost more than a common one, and it will last a lifetime. As it is of a really lasting kind it will pay to spend a few extra pence in purchasing a piece of really good wood for the sides, as deal or pine is very apt to be split or weakened in the making. To keep it from being overturned bore a hole in the side of the hutch and insert a piece of wire in the form of a hook. This can be affixed to one or more of the troughs.

Another kind of trough is a simple wooden box made the necessary size and covered with wires in a similar manner to that described above, or wires of a stronger nature may be affixed longitudinally about 2 inches apart, so that if the trough were 4 inches across a wire should be fixed an inch from each side. The cost of making a trough of this description will be but the smallest trifle under the one first described, and it will be quite as much trouble. It will not, however, last so long, as it is more difficult to cleanse it, and be as careful as possible it will get tainted by use. This should be fastened to the side of the hutch in the same way as already described.

For a watertight trough a sheet of zinc should be obtained and bent in the proper shape, the sides and joints being hammered too tightly to allow any leakage.

These troughs will be found to answer every purpose for does with litter or batches of young Rabbits, but they would be unnecessarily large and cumbersome for a single buck Rabbit. For him the easiest and perhaps the most serviceable trough is made of zinc in a circular shape, the edges being all turned over a thin iron bar for the sake of strength. The trough should be fixed to the bottom of the hutch by a couple of strong nails. To prevent the food being scratched out make the sides 3 inches high, and let them slightly converge towards the bottom. These troughs will be found cheap and effective.—GETA.

THE BIRMINGHAM CATTLE AND POULTRY SHOW.—A considerable portion of the exhibits for this, the twenty-ninth annual Show, are now in Bingley Hall, and ready for the inspection of the Judges on Saturday, December 1st. The entries of roots and potatoes show a large increase. The applications for space from implement manufacturers are larger than ever before known, and many have been declined; others cut down to very small proportions. The poultry number 2700 pens, and the Council have found it necessary to hire 500 additional pens for their reception. Among the exhibitors are Her Majesty the Queen, H.R.H. the Prince of Wales, the Dukes of Buckingham, Marlborough, Portland, Northumberland, and Sutherland; the Countess of Chesterfield, Countess of Dartmouth, Earl of Lonsdale, Earl of Crawford and Balcarres, Earl of Ellesmere, Lord Falmouth, Lord Chesham, Earl of Galloway, Earl of Harrington, Lord Leigh, Lord Lovat, Earl of Powis, Lord Tredegar, Lord Walsingham, Sir Watkin Wynn, Mr. McCombie, the Corporation of Birmingham, &c. As usual, the judging will take place on Saturday, when the charge for admission is 10s., life members

only having free passes; on Monday the charge is 5s., subscribers' tickets being available. The others are 1s. days, a concession being made on the last two evenings in favour of the working classes, by reducing the payment on entrance to 6d.

NOTES ON CANARIES.

I HAVE often been asked to recommend the sort of Canary to make the best cage songster. One's idea at once inclines towards the German songster, but unfortunately such is the brief duration of life that no dependance can be placed upon any purchased bird passing through the moulting sickness and again breaking forth into song equal to that when first obtained. Like the Nightingale, appearances do not favour the German bird, which possesses only a moderate garb compared with many of its congeners. The disappointment, no doubt, is great to those who invest their money in purchasing a really first-rate German songster, to find that after a brief season the bird becomes silent. To please the ear and the eye what can suffice better than one of our charming-bred Norwich birds tutored in its youth under a German schoolmaster purchased in the spring of the year? Norwich songsters possess both power and volubility of voice, which when cultivated is sufficiently pleasing; and more dependance can be placed upon the prolongation of life, such birds generally being of robust constitution. Lizard Canaries likewise are sweet songsters, but they are not so much at call as Norwich, which latter breed possesses that much-sought-for colour—"yellow." Everybody, at least ten out of a dozen, wishes for a "yellow" bird, which is supposed to mean clearly a bird without any blemishes—marks upon it. At least that is the way it is interpreted by those outside the circle of "the fancy." In many cases where a marked Norwich may be offered for sale, the reply is "I do not want a Mule."

Now in making choice of a bird to gratify my own taste I would choose a Mule proper—a cross betwixt a Goldfinch and Canary, for the reason that you may obtain a greater variety and change of notes from a young bird when brought up under a good schoolmaster; and I have always looked upon Mule birds of the above particular breed as being more vivacious and entertaining than a Canary.

In maintaining and preserving the constitution of a healthy cage songster it should be kept in a well-ventilated atmosphere, apart from a superabundance of artificial fire heat and from the poisonous fumes of gas. Thereby many good birds become spoiled. Excessive heat brings about periodical moulting, and thus arises the often-asked question "What is the reason of my Canary giving over singing?"

In speaking of "German songsters" Mr. John Varley of Nottingham, in his third edition of "Exhibition Canaries," says:—"In autumn and the early part of winter every year a very many trained, or partially trained little songsters, Canaries and Bullfinches, are brought to England by German itinerant dealers. These Canaries are a short plump race, with full wide chests and very expansible throats while singing, which last property gives them the power to warble in an extraordinary degree. They are mostly bred and trained by the peasantry of the Hartz and Tyrol mountains, who keep and employ sets of well-trained birds as schoolmasters. These schoolmasters consist not of Canaries only, but also Nightingales, Blackcaps, and other of our migratory and home warblers, which are thus used for training Bullfinches to whistle tunes, which they often do very proficiently and plaintively. These Hartz Canary songsters are not generally blessed with very pretty plumage, but their melodious sweetly modulated voices and free song more than compensates for any want of beauty. Some of them have an astonishing range of notes and deflections."

Mr. Varley also says in reference to German birds:—"They are not often exhibited as show birds, but are occasionally used in prize song contests." In this latter remark I can bear out Mr. Varley's assertion so far as the showing of them is concerned. A bird more unlikely for exhibition I know not where to find, although I have had many come under my notice in an "Any other variety" class at the Crystal Palace bird shows.

Mr. Varley in his interesting pamphlet gives the "rules for judging and determining superiority of song." He says:—"In competing for superiority of song, quietude and reasonable distance from the birds to be kept; only one contesting bird should sing at the same time, but the owner may have the privilege of bringing another songster to stimulate his own to sing. The time allowed in case of Canaries, Linnets, &c., should be no longer than fifteen minutes, part of which may be in sight and part out of sight of the stimulator. Superiorities:—Greatest number and variety of good notes; greatest harmony of song; fewest harsh or incongruous notes; greatest length of rolls or runs on the same notes measured by seconds; greatest length of time without breaks, or least number of breaks in continuous song within the given time. Harsh or otherwise bad notes to be recorded by points against. Two judges, two time-keepers, an umpire, and the owner or exhibitor of the bird or his agent, only to be in the room with the birds during the time of the contest."

In making choice of a bird for singing do not pick one with a drooping tendency. The best sign of health is compactness of plumage. The throats of birds when singing should be expanded, as Mr. Varley says "those can warble best which have this property highly developed."—GEORGE J. BARNESBY.

BIRMINGHAM COLUMBARIAN SOCIETY.—The members of this Society announce that their Show of Pigeons will be held at the White Horse Hotel, Congreve Street, on December 3rd, and to which they invite all fanciers visiting the Cattle and Poultry Show.

BAR-FRAMED HIVES AND THEIR MANAGEMENT.

No person of intelligence with an average amount of time at his command who has tried fully and fairly the system of bee management which encourages the use of bar-framed hives, will ever return to the old-fashioned system of straw skeps. The advantages of the new and more scientific principle are so many and so obvious in comparison of the other—as they have been again and again stated in these pages from the days of Mr. Woodbury, its first great advocate here, down to our own times—that it seems scarcely necessary to repeat them; and yet as there is a constant accession to the number of readers of this Journal from among persons who are novices in bee-keeping, and inquiries are being continually made for information on this subject, I purpose to go into the matter from the beginning. I am the more induced to do so because our friend Mr. Pettigrew in a recent number, at page 411, when asked for information on a branch of this subject—namely, as to "the best size for a strong stock in winter, and what height for a frame hive," dismisses the subject with an answer which is by no means complete, and which in fact deals somewhat slightly with the whole question, the truth being that Mr. Pettigrew knows very little practically, as he has often admitted, of this now favourite and increasingly adopted mode of bee-management.

As I have said before, so I say again, that Mr. Pettigrew's system both as to his use of straw hives and his method of management is excellent in its way, and admirably adapted for the one object he has in view—namely, the taking from his bees the largest possible quantity of honey without particular reference to its quality. There is nothing new or special in Mr. Pettigrew's system, as he himself candidly states, except that he finds a much larger hive than is commonly used in the country to be in every way better and more profitable in his own locality. Some of us think that he rides his hobby of big hives somewhat "to the death," as for instance when he insists upon their being equally adapted to all places alike, whether the honey pasturage and supply be good, bad, or indifferent. I do not suppose he exactly knows the meaning of the word "illogical" when he applies that epithet to the statement that "large hives are best for good neighbourhoods and rich pastures, and small hives are best for unfavourable localities for honey." This self-evident axiomatic truth surely needs no proof. If all places were alike in excellence and productiveness of pasturage then the biggest of big hives "for ever;" but where, as in my own case, the pasturage is scanty and unproductive, such very large hives like Mr. Pettigrew's are worse than useless. I have abundantly proved it to be true.

Be it remembered that the dispute is not as between straw and wood as materials for hives. Straw is a most excellent material, and far better than wood, in all places where the hives are exposed to severe cold, save only where proper precautions are taken to protect wooden hives. This can very easily be done by a variety of contrivances, such as by covering with other boxes and filling the interstices with chaff or sawdust, or protecting with old carpet jackets, &c. If this care be taken I can see no sort of difference in the intrinsic excellence of the one material over the other; I mean simply as to which is best for the comfort of the bee. I once thought that hives of straw were drier than hives of wood. I have long given up that notion, except in the case of quite new wooden hives. It is the habit of bees to smear over everything with a kind of varnish of propolis. It matters not, therefore, whether a hive be of straw or wood. After the first year's use any moisture the bees may occasion inside the hive will have precisely the same effect on the combs in the one case as in the other. It will run off from the sides downwards equally in both cases. In both cases it will affect the combs for harm exactly in the same way. If the hives are equally well peopled, equally well protected from external damp, equally well situated so as to be affected alike by any dry currents of air, they will pass through the winter precisely as well in the one hive as the other. That is the result of my own experience of more than forty years as a bee-keeper. Therefore I say that on the score of dryness there is not a pin to choose between wood or straw. I have seen straw hives with the combs as damp and mildey as in any wooden hives I ever saw, and the latter hives I find practically quite as excellent domiciles for bees as anything that could be wished for. The one

advantage of straw over wood is, that it is both warmer in winter and cooler in summer. But this advantage is far more than counterbalanced by the superior handiness and durability of hives of wood, whether they be hexagonal, square, or oblong in shape. The latter always retain their form, whereas after a time the best-made hives of straw give way more or less, and are then almost useless where accuracy of measurement is wanted.—B. & W.

DORSET POULTRY, PIGEON, AND CAGE BIRD SHOW ought to be attractive and successful, for nearly £300 in prizes are offered, including thirty silver cups and pieces of plate.

OUR LETTER BOX.

CRYSTAL PALACE POULTRY SHOW (E. Cross).—The prize-list was certainly not clearly worded, and was liable to be mistaken.

PURE BREEDING (Kendallian).—The question you ask is a vexed one, as opinions vary very much. Are the hens laying now? If they are it is safe to doubt their eggs at any rate until the end of the laying, whereas if they were now put to the cock you wish to breed from, no other allowed to run with them, and they are only at the beginning of the laying, the later eggs may in our opinion be trusted. But seeing the time of year, the few birds that are laying, and the time that must elapse before they can be hatched "chickens of 1878," we advise you to take some that are not laying, to put them with their intended partner, and to set the eggs after the first four or five they each of them lay. We believe then you will have the strain you wish for.

WASPS (C. A.).—The annoyance from the nest of wasps in the wall of one of your bedrooms must have been great, but as the lives of working wasps are very short, like those of working bees, it is to be hoped that the annoyance is at an end. Though working wasps live but a few months their queens live longer, and singly nestle and hybernate in some protected corner. A great number of queens are bred in autumn in every nest of wasps, and probably those bred in your wall have already gone to hybernate elsewhere. By closing the outer entrance to the nest your house will not be invaded next year by wasps. This season has been rather cold and unfavourable for wasps. But few queens in the north were able to establish nests, hence wasps have not been numerous. Next spring boys and girls should be offered 6d. for every queen wasp caught and killed.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.					Rain.
	Barom- eter at 92° and Sea Level.	Hygrom- eter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.			
		Dry.	Wet.			Max.	Min.	In sun.	On grass.		
1877.	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.	
Nov.											
We. 21	29.805	39.5	37.5	S.W.	43.0	52.0	34.7	51.3	29.2	0.240	
Th. 22	29.241	48.2	44.7	S.W.	44.2	54.9	39.0	58.1	38.7	0.180	
Fri. 23	29.564	44.0	39.5	N.W.	44.0	49.0	42.0	52.1	37.1	0.010	
Sat. 24	29.491	37.9	37.5	N.E.	42.1	43.1	32.4	44.2	28.2	0.419	
Sun. 25	29.735	37.1	34.5	N.W.	41.8	44.3	36.1	72.4	30.9		
Mo. 26	29.934	36.1	36.0	S.W.	40.2	45.5	31.2	70.0	26.2	0.288	
Tu. 27	29.824	49.3	48.4	S.W.	42.0	52.0	35.3	59.2	31.9	0.552	
Means	29.588	41.7	39.7		42.8	48.8	35.8	65.9	31.9	1.669	

REMARKS.

- 21st.—Fine morning, cool, rain began at 10 A.M., wet and dull afterwards; very wet evening.
 22nd.—Fine morning with hot sun, heavy showers during the day; high wind at night.
 23rd.—Fine bright day; lightning at 7 P.M.; lunar halo at 10.30 P.M., cold starlight night; thunder at night.
 24th.—Dark but fine morning, rain commenced at 11 A.M. and lasted nearly all day; very wet afternoon.
 25th.—Fine cool day; starlight night.
 26th.—White frost in morning, and very fine; dull afternoon, rain began at 4.30 P.M. and continued the rest of the day.
 27th.—Damp but fine morning, cloudy afterwards; heavy rain from 5 to 7.30 P.M.; very fine after 10 P.M.
 A wet week, with frequent high wind.—G. J. SYMONS.

COVENT GARDEN MARKET.—NOVEMBER 28.

Our market is still very dull, and will be till a week or so before Christmas. Prices remain the same.

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....	dozen	0	0	4	Mushrooms....	pottle	1	6	0
Beans, Kidney....	basheel	0	0	0	Mustard & Cress	punnet	0	2	0
Beet, Red.....	dozen	1	6	3	Onions.....	bushel	0	0	0
Broccoli.....	bundle	0	9	1	pickling.....	quart	0	4	0
Brussels Sprouts	½ sieve	2	6	0	Parsley.... doz.	bunches	2	0	0
Cabbage.....	dozen	1	0	2	Parsnips.....	dozen	0	0	0
Carrots.....	bunch	0	4	0	Peas.....	quart	0	6	1
Capsicums.....	3-100	1	6	2	Potatoes.....	bushel	3	6	0
Caniflowers....	dozen	2	0	4	Kidney.....	bushel	2	6	0
Celery.....	bundle	1	6	2	Radishes... doz.	bunches	1	0	1
Coleworts doz.	bunches	2	0	4	Rhubarb.....	bundle	0	6	1
Cucumbers....	each	0	9	1	Salsafy.....	bundle	0	9	1
Endive.....	dozen	1	0	2	Scorzonera	bundle	1	0	0
Fennel.....	bunch	0	8	0	Seakale.....	basket	2	0	2
Garlic.....	lb.	0	6	0	Shallots.....	lb.	0	8	0
Herbs.....	bunch	0	2	0	Spinach.....	bushel	2	6	4
Lettuce.....	dozen	1	0	2	Turnips.....	bunch	0	8	0
Leeks.....	bunch	0	4	0	Veg. Marrows..	each	0	2	0

WEEKLY CALENDAR.

Day of Month	Day of Week	DECEMBER 6—12, 1877.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.			
6	TH	Royal Society at 8.30 P.M.	49.2	36.7	42.4	7 53	3 50	9 57	4 41	2	8 59	340				
7	F		49.4	38.5	43.5	7 54	3 49	10 37	5 53	3	8 13	341				
8	S	Royal Botanic Society at 3.45 P.M.	48.9	38.6	40.8	7 55	3 49	11 4	7 8	4	7 46	342				
9	SUN	2 SUNDAY IN ADVENT.	46.7	34.9	40.8	7 56	3 49	11 24	8 22	5	7 19	343				
10	M	Royal Geographical Society at 8.30 P.M.	40.7	32.8	39.9	7 58	3 49	11 39	9 34	6	6 52	344				
11	TU	Michelin's born, 1697.	46.5	32.6	39.5	7 59	3 49	11 53	10 44	7	6 24	345				
12	W	Society of Arts at 8 P.M.	48.0	37.0	42.5	8 0	3 49	0 2	11 54	8	5 35	346				

From observations taken near London during forty-three years, the average day temperature of the week is 46.6°; and its night temperature 35.1°.

ROOTS AND LEAVES.

IT is not sufficiently borne in mind that there is a close sympathetic feeling between the two extremities of a plant. The leaves cannot be injured materially without the roots being checked, and *vice versa*. Generally speaking, but there are exceptions, while a leaf has the smallest particle of green colour in it, it has a duty to perform in the plant's economy, and to remove it by force is to upset the natural arrangements for assimilation. Sometimes this is admissible, as the benefits arising therefrom more than counterbalance the injury done; but there are times when the injury would preponderate, and I think this is especially so when the circulation is becoming sluggish as in autumn, or when a plant is unhealthy and short of good foliage.

There are people I know who do not like to see the "sere and yellow leaf," but they must endeavour to put their dislikes on one side if they would become skilful cultivators. Depend upon it half a leaf in the growing season is better than no leaf at all, even as half a lung would be better than none at all; and remember also that when the wood is ripening the roots are, or ought to be, doing the same thing, but they are both dependant on the foliage, and no real ripening can take place after it is gone. We know that people, and good gardeners amongst them, do brush-off the loose leaves from their Peach trees in autumn with the idea of admitting sunlight to the wood to ripen it. But is not this a fallacy? The wood may get a little coloured, but it never gets the least harder after the foliage is gone. Ripening can be assisted considerably by stopping the young growths in July and August and by exposing the foliage as much as possible at that time to the light; but if anyone supposes he can assist the ripening of the wood of the current season by mutilating the trees at either end after September, however fine the autumn may be, I think he is mistaken.

There are many people, too, who trim off leaves for the sake of tidiness when they begin to look a little dingy; herbaceous plants sometimes have not only their leaves trimmed off, but their stems also, before they are anything like ripe or have made provision for forming fresh stems. This is clearly a mistake. We must put up with a little unsightliness at times and allow the plants to ripen naturally as much as the season will admit, only cutting off that which is actually dead, especially when dealing with weak or tender subjects. Ferns are sometimes cut clean down when they are past their best. "Yes," says some successful village exhibitor, "by those who grow them better than you do." Granted; but that does not prove the plants could not be grown better by leaving the fronds on, in the case of evergreen sorts, till the young fronds had grown up and become fitted for their work.

With regard to deciduous plants either for flowering or fruiting, many people would seem to think that if they

can by any means—let it be by starvation, freezing, or scorching—but get rid of the foliage all must be right and that the wood is ripe as a matter of course. But the fall of the leaf is not an infallible sign of perfect ripeness. The natural fall of the leaf is early this year, and I have no doubt many are consoling themselves that the wood of their fruit trees is, owing to the fine September and the light crop of fruit, matured better than usual, but such is certainly not the case. We will endeavour to be very grateful for the fine September; it did an immense deal of good in many ways, but it could not counteract all the bad effects of a cold dull summer, and it still left much of the wood unripe, therefore it will be necessary to prune hard. I think it will be generally found that a period of hot weather coming just after the spring growth is made is best calculated to ripen outdoor fruit trees, and to bring good flavour and well-coloured fruit; and I also think that when the wood is well ripened the autumnal colours of the foliage are brightest. There has been a great lack of colour this autumn.—WILLIAM TAYLOR.

SELECTIONS OF GRAPE VINES.

Now is the time to select Vines for planting during winter and spring, and those who have them to buy cannot do better, nor purchase cheaper, than by obtaining them from a respectable nurseryman. Sometimes some people are induced to purchase a few half-grown things from a neighbour because they get them cheap; but cheap inferior Vines for planting are very much more expensive in the end than purchasing almost at any reasonable cost first-class Vines. Small badly-grown Vines are a long time in making good fruiting canes or rods; whereas when good Vines are planted they bear fruit the second year and good crops the third. First-class canes for planting of all Vines that have been in commerce for some years may be bought from 5s. to 7s. 6d. each. Vines at this price should be nearly as thick as one's little finger, from 4 to 6 feet long, every inch of wood hard and brown, and, above all, the roots should be wiry and so plentiful that they will hold the ball of soil together when lifted out of the pot and swung about with the hand. As to insects no warning need be given, as I do not suppose anyone would be so foolish as to plant Vines covered with any kind of injurious insect; but at the same time when Vines are ordered without seeing them it should always be on condition that they are perfectly free from every pest.

Vines are generally required of three classes—for a cool house, a temperate house, and a hothouse. A cool house may be a proper vinery not heated, a greenhouse, or conservatory; a temperate house is generally a vinery with two or three rows of pipes in it; while the hothouse is one with strong forcing power, such as that which Muscats are grown in. To meet each of these frequent requirements I will arrange the Vines as follows:—

Vines for a Cool House.—Black Hamburg and its varieties, Royal Muscadine, Mrs. Pince's Black Muscat, and Lady Downe's—that is, two early and two late sorts.

When only one is wanted take the first. This season we had it perfectly ripe in a house where there is no means of applying heat by the end of September, and a gentleman told us that the berries were finer coloured than any of the Black Hamburgs at the Carlisle Show.

Vines for a Temperate House.—The above may be included here as well as the following: Black Alicante, West's St. Peter's, Foster's White Seedling, Gros Colman, Duke of Buccleuch, Golden Queen, Syrian, Trebbiano, White Nice, Duchess of Buccleuch, and Dr. Hogg.

Vines for a Hothouse.—Muscat of Alexandria, Bowood Muscat, White Frontignan, Madresfield Court, Canon Hall Muscat, and Gros Guillaume.

A few more varieties might be added to each of these classes, but as a rule none are of equal merit to those named. The average temperature which would ripen each of these classes might be taken at or between 60°, 65°, and 70°.

There are other three classes into which these Grapes may be conveniently divided to meet general wants. These are:—*Early Grapes*—Black Hamburg, Foster's White Seedling, Buckland Sweetwater, and Duke of Buccleuch; *Midseason Grapes*—White Frontignan, Madresfield Court, Muscat Hamburg, Dr. Hogg, Duchess of Buccleuch, and Canon Hall Muscat; *Late Grapes*—Muscat of Alexandria, Lady Downe's, Black Alicante, West's St. Peter's, Gros Colman, Golden Queen, Gros Guillaume, Syrian, White Tokay, Trebbiano, and White Nice. With the exception of Muscat of Alexandria we have ordered all the sorts here named to plant a late vine with this winter, and we would have ordered the Muscat too only we have not enough of heat in the house to grow it properly. Golden Queen may be said to be the only one that is on its trial, and I believe it is understood to be a good Grape; but at the same time, if its keeping qualities are so good as represented, the month of September is a curious time of the year for prizes to be offered for a late-keeping Grape. Showing it well in prime condition in February or March would do much to establish its reputation in this respect.—A KITCHEN GARDENER.

WINTER EMBELLISHMENT OF FLOWER BEDS.

MANY able critics have justly described our flower gardens in winter as cheerless and barren. We must admit that they are so in most cases, for it is seldom that the parterre is occupied with ornamental plants except in the height of summer. This winter decoration of flower beds is a subject which deserves more attention than it has hitherto had. When the summer is over the empty beds always produce a depressing effect. Little can be expected in winter in the way of flowers, but many hardy shrubs and Conifers are well suited to render the beds attractive. Until the return of spring many hardy evergreens are so distinct and beautiful that they would, if employed, soften the rigour of winter and assist in making our pleasure grounds pleasing all through the year. Conifers alone, with their great diversity of colour and habit, are capable of forming ornamental groups. Who could look upon a bed of young plants of the *Cedrus Deodara* with their graceful forms without admiration? *Cupressus Lawsoniana* is particularly attractive with its varieties *aurea* and *argentea*. The round form of the *Biota aurea*, with its brilliant golden tinge, is both elegant and bright; then again, as a contrast in form we have the upright habit of growth with equally brilliant hue of *Biota orientalis elegantissima*. The Irish Juniper and the Italian Cypress are compact in habit and extremely chaste.

The Junipers ought to take the lead for bedding, for they are most elegant when in a small state, and the best for the purpose is *Juniperus virginiana glauca*, with its charming silvery shoots, slender and delicate; *J. virginiana pendula* kisses the ground, and *J. virginiana erecta* is as upright as an Irish Yew, but of a lively tone of bluish green; *J. phoenicea* is of a free branching habit, a mass of delicate green tracery; *J. Sabina variegata* is charming to plant as a carpet for a tall specimen of *J. chinensis* or *J. excelsa*; *J. fragrans* is very beautiful in a small state; and *J. drupacea*, with its rigid leaflets, is suggestive of a miniature *Araucaria*. All the Conifers named may be purchased at a low price and in quantities. They are better for being grown in pots for bedding, for they can then be easily removed to and fro and replanted without being injured; thus they may be made to do duty in the parterre through the winter, and contribute to the beauty of some other portion of the grounds during the summer; or they may be placed in the

reserve garden till wanted. With ordinary care and attention they will improve in beauty and value yearly, and when grown too large for the pots and beds they may go to beautify the shrubbery.

Many of the commoner shrubs can be made objects of beauty by the exercise of a little taste in planting them in beds. They can be grown without pots and without risk of being injured by transplanting provided proper care is taken in their management. The Hollies are amongst the most useful for this purpose. They bear cutting, and can be grown as standards, pyramids, or any other shape that taste may dictate. The variegated kinds cause the best effect, particularly when laden with red or yellow berries, as we see them this season. The *Berberis*, or *Mahonia* as it is now called, is admittedly one of the most beautiful of evergreens. At this season its rich dark foliage is quite distinct. The Golden Yews are also well adapted for planting in beds when in a small state, and shine more conspicuously in a group than a mixed shrubbery; and we must not forget the *Aucubas*, for they contribute cheerfulness wherever they are seen. The *Laurustinuses*, with their ruby buds and white flowers, are as fresh and bright as the summer flowers. They give effect the moment they are bedded, and continue attractive for a length of time. The same may be said of the *Arbutus* or Strawberry Tree. The next in utility among hardy shrubs are the various kinds of *Euonymus*. It is astonishing how much variety may be attained by the varieties of this plant alone. We have *E. japonicus*, *E. angustifolius*, *E. argenteo-variegatus*, *E. aureo-variegatus*, *E. latifolia albo-variegatus*, and some others; but *E. radicans variegatus* is perhaps the most useful of all. It is a prostrate-growing species, excellent for edging, the constancy and beauty of its silvery white variegation, which is occasionally tinged with pink, giving it a striking appearance not possessed by any other plant. It is highly suitable for winter decoration, and is a general favourite. There are many more ornamental shrubs that might be used with a good effect, such as the Variegated *Buxus*, *Daphnes*, *Osmanthus*, and others which may be turned to valuable account, yet I do not advise the planting of the whole of the beds with shrubs. We must have a good share of them planted with bulbs and other spring flowers. My object is to show that people, after gratifying their taste with gay flowers in summer, need not have barren gardens in winter.

In arranging the shrubs we must be guided by the number of beds and the scenery around them; for instance, if there are only one or two beds, and these not in the neighbourhood of a shrubbery, the beds may be planted on the mixed system; but if there are many beds, and in close proximity to a mixed shrubbery, we must not plant more than three kinds in a bed thus—the principal groups, the edging, and the carpet. Even if the beds are numerous they may all be made distinct without giving a shrubbery-like appearance to them. The following examples are submitted as effective arrangements:—

A bed of Golden Variegated Holly, a carpet of one of the dwarf Junipers, with a margin of the Silver *Euonymus radicans*.

A bed of standard Silver Hollies, a carpet of the Golden Box, with an edging of Variegated Ivy.

A bed of *Cupressus Lawsoniana*, a carpet of small *Aucuba*, with an edge of *Erica herbacea carnea*, *E. vulgaris aurea*, or *E. mediterranea*.

A bed of Golden Yews, a carpet of the silver-leaved *Euonymus japonicus albo-marginatus*, with an edge of *Vinca elegantissima*.

We can exercise our taste to any extent and execute some bright examples of shrub embellishment, which will impart a cheerful tone to the garden in the depth of winter.—NATHAN COLE, *Kensington Gardens*.

HELLEBORUS NIGER.

ALLUSION having been lately made to this interesting hardy plant, I may remark that I recently observed a very fine specimen in an amateur's garden. The garden alluded to was partly in grass, with a belt of evergreen and deciduous shrubs at one side, and between these shrubs, or rather in front of them, this Hellebore was growing, and it had evidently not been disturbed for several years; for at the time I met with it, it was a dense mass of foliage, about 4 feet in diameter, with scores of flowers of the very purest white, quite equalling the *Eucharis amazonica*. They were just on the point of expanding during the last week in November, and some that had been gathered opened in water, while the others were opening on the plant. I certainly never met with so fine

a plant, and could not ascertain how long it had been undisturbed; as I believe it is only in the gardens of cottagers or in those of amateurs that have partly been neglected of late years that we find this plant in such good condition as the one mentioned above. The attempt to propagate is often too great to be resisted by the more fashionable gardener of the present day, so that but comparatively few large specimens are met with.

It was growing on a deep yellow loamy soil, and almost touching it was a *Hydrangea* that annually flowered a very good blue, but the appearance of the soil was the very reverse to peat, although *Rhododendrons* seemed to thrive pretty well in it. The soil to my mind resembled the dried-up mud of a pond, which it possibly might have been. The flowers of the *Hellebore*, I may add, had not the least tinge of pink about them, which many others that I have met with have, and the foliage of the plant was both ample and luxuriant, and its flowering nearly a month before Christmas in the present year is only in accordance with that of several other early spring flowers, as many *Primroses* and not a few *Polyanthuses* are in full flower, which no doubt is due to the moderate rainfall we had at various times during the summer.—J. ROBSON.

REMOVING TREES.

THE following remarks will, I trust, be of service to some young gardeners and others who may have trees or shrubs to move, and with poor facilities for the undertaking. Few employers will go to the expense of hiring or buying barrows and other tree-movers, consequently some other cheaper if less effective appliance must be adopted. November is generally considered the best time for moving all kinds of trees, deciduous or otherwise. We, however, moved trees during intervals of favourable weather throughout last winter as successfully as those moved in November. We were re-arranging a shrubbery or arboretum formed about nine years ago. Among others we moved specimens of *Piceas Nordmanniana*, *grandis*, and *Pinsapo*, *Cupressus funebris* and *Lawsoniana*, *Salisburia adiantifolia*, *Thujas*, *Abies*, *Thuopsis borealis*, *Sophoras japonica* and *pendula*, *Acacia tortuosa*, *Phillyreas*, *Hollies*, *Portugal Laurels*, &c. Of course there were failures, notably with *Cedrus Deodara* and *Arbutus Unedo*, but in neither case was a ball obtainable, and seldom is unless prepared by digging a trench round the previous year, the roots being inclined to ramble and make but little fibre. Many of the trees were a fair size, but the largest and best specimen successfully moved without any previous preparation was a *Wellingtonia gigantea*, the height of which was 20 feet, and fairly proportionate.

I will briefly detail our method of procedure in this instance, the same plan (according to the size of tree) being adopted with the others. The soil and subsoil varied considerably, but clayey loam was most prevalent. This was greatly in our favour, as where there is any great amount of sand or gravel the ball is apt to crumble away. The ball of the *Wellingtonia* consisted principally of the clayey loam, clay predominating. We commenced operations by carefully tying up all the lower branches, drawing them as much out of the way as possible. A circle was next marked round the tree about 6 feet from the stem, and inside of this a trench 2 feet wide was taken out. The men were facing the tree, and using spades when cutting the outer ring. After this they had the tree always on the left or right hand as the case might be, and dispensed with the spade as much as possible, using forks and picks where necessary. This was done to save as many roots as possible, those farthest from the stem being the best, and were taken great care of. We continued this till we were well below the principal roots and intended ball before commencing its reduction. This rule should always be strictly followed, as it greatly facilitates all after proceedings. The men are generally in too great a hurry to get the tree out, but by allowing plenty of depth and width much labour is eventually saved and success is more likely to ensue. We then commenced undermining with the picks, gradually working-off small pieces from the ball (large pieces bring away too many roots), keeping the trench clear with the shovel. This went on until we were within about 2½ feet from the stem. The surface soil was then pricked off till the roots were reached (this helps to prevent cracking); all the roots, where practicable, were pegged to the ball, and the longer and stronger ones tied to the stem. We undermined the ball until only a small pillar of soil remained and then inserted our slides.

These were made of deal, were 7 feet long, 4 inches thick, and 8 inches wide; they were rounded off from the centre to enable them to run freely, and the bottoms shod with old cart tires. This is necessary, or the roads will tear them to pieces. Strong bolts with eyes and rings for drawing purposes were inserted in the inner side of each end, and two strong bolts were made for connecting and tightening the slides. These were 3 feet long, square at the head, screw ends and the nuts had a small handle attached for tightening purposes. The sockets were square, with iron plates on the outer sides, and were placed in the centre of the wood about 15 inches from the ends. The way out, kept clear from the commencement, was sloped off to an easy rise, the slides adjusted accordingly, and so as to nicely balance the ball, were screwed up, and the remaining soil then worked from under the ball, allowing it to gradually settle on the slides. This was "ticklish" work, and was done with a crowbar and long heavy chisel. Two wedge-shaped boards were worked in before and behind the ball, and planks under the slides to improve the running. Three horses were required, a man at the head of each (to prevent snatching, broken chains, &c.), and the tree firmly bound to the slides was then drawn out and away to its present site, previously prepared, a sloping inlet made, &c.; the horses were unhooked, taken to the opposite side, long and strong chains attached, and it was soon in. The bolts were withdrawn, the slides undermined and taken out, and the "worst was over."

We then unpegged and cleanly cut the ends of all the roots, taking out all those badly damaged. They were then laid on the soil as filled in, every one in its proper place or level. The ball being rather dry was pierced with pointed iron rods and thoroughly soaked, not by heavy but frequent waterings. Had the ball been in a moist condition no water would have been used, as the surrounding soil was in good condition, and I think it a great mistake to saturate newly-planted trees; they will "settle" fast enough. We made the balls as flat as possible, to enable them to more readily unite with the soil, and they are less likely to get out of the perpendicular. All the holes were well prepared, not mere basins, to fit the ball, but ample space was given, the soil thrown out, the subsoil broken-up with a pick, and good soil, principally from an old rubbish heap, was added. The trees in most cases were planted rather above the level, as this gives a greater depth of good soil, and consequently the roots are longer reaching an unkindly subsoil.

Slides on a smaller scale would, I think, be found very useful for moving small specimens, as two or four men can lift out and carry or draw them to fresh sites without having to wriggle or twist them about to get planks, hand-barrows, or whatever is used under and away from them again. Slides have, I believe, long been in use, but I have never seen any but those I have had made. They certainly answered our purpose remarkably well, but anyone with a better and equally simple invention will greatly oblige me and doubtless others by describing it.—W. IGGULDEN, *Orsett Hall, Essex*.

RAIN-PROOF BEDDING PLANTS.

1877 has been an exceptionally wet year all over the country, and throughout the season its effects have been shown on few things to a greater extent than on summer bedding plants. Gorgeous masses of colour, and magnificent displays from May to September or October, have been few and far between this year; and however much *Geraniums*, *Calceolarias*, *Verbenas*, and other half-tender plants may have been petted and held-up as infallible, I fear this season must have brought them into general discredit. But in saying this let it be understood that I do not despise summer bedding. Hardy herbaceous plants are all very good in their place, but those who advocate filling our flower garden designs with a mixture of such plants must be regarded by the general community as showing worse taste than that which they condemn. What I mean doing, and what others will find it to their advantage to do, is to make the flower garden as gay as it possibly can be made with bedding plants in summer, and only employ such plants that will make and retain a gorgeous display independent of either sun or rain. *Geraniums*, *Calceolarias*, *Verbenas*, and such like cannot be relied on to do this, but there are other plants equally gay which can.

During the past summer the popular trio named would count five to one of all other plants put together in our flower garden. Next year I will take care that these other plants

count ten to five of the Geraniums, Calceolarias, and Verbenas. The latter grew well—too well, as they exceeded all proportional bounds, and after a week's sunshine they did make a pretty good display; but one hour's rain completely demolished it, and this occurring repeatedly brought the minority of our plants into prominence and favour. These consisted of Violas as flowering plants and some rich-foliaged plants.

Viola blooms are the very best flowers in existence for withstanding rain, and the length of time they remain in bloom and the quantity of flower they produce throughout the season is surprising. They begin blooming early in May and continue a perfect mass until the end of October, let the weather be either excessively cold, warm, or rainy. They always maintain a low compact habit of growth, and for "show," Geraniums, Calceolarias, and Verbenas at their very best cannot "put them in the shade." These remarks do not apply to or reflect the opinion of one season nor one district, but to a good many years now and many localities north and far south. Apart from all this Violas have another strong, very strong, recommendation—they are easily propagated, and the most simple of all plants to cultivate. They will root and grow in any ordinary soil, and in winter they must either have the protection of a cold frame or the shelter of a wall, but what they must never have is expensive artificial heat. Cuttings may be inserted during any of the autumn months, and those who cannot incur the trouble of doing this may leave the old plants undisturbed in autumn and divide them and plant afresh in April, about which time they may all be planted in the positions they have to embellish during the summer and autumn.

The following are the names of those which I have found of superior merit. They are classified according to their leading colours:—*White*—Climax, Snowdrop, Pearl, Purity, Pilgrim Park, Snowflake, and Stricta alba. *Purple*—Vanguard, The Tory, Prince of Wales, The Favourite, King of Bedders, Dickson's King, Alpha, Acme, and Emperor. *Yellow*—Brilliant, Canary, Dickson's Golden Gem, Grievi, Sovereign, and Stricta aurea. *Lilac*—Lilacina and Multiflora amabilis. *Violet*—Royal Visit, and Amena magnifica.

Other "rain-proof" bedding plants capable of making an attractive display are the different sorts of Iresines, Mesembryanthemum cordifolium variegatum, and the yellow Pyrethrum. One of the finest beds in our flower garden this season was one in the form of a scroll and about 2 feet wide. The centre of this was filled with Iresine Lindeni edged with the Mesembryanthemum. Two other effective beds were centred with Iresine Herbstii and edged with Pyrethrum. All these plants make excellent combinations with the Violas. These fine-foliaged plants were attractive from the day they were put out in May, and although much rain has fallen lately they were just about as showy on the 24th of November as they were in August. The Pyrethrum is easily raised from seed, which may be sown now in a little heat to furnish plants for planting out in April. Iresines are so easily propagated that a plant may be raised from every joint. The Mesembryanthemum is a plant that may be raised true from seed, and hundreds of cuttings may be had from a few old plants lifted in autumn and kept in a temperate place until spring. Perhaps there are other foliaged plants which might be added to these, but those who employ the plants named will not have cause to complain of the rain spoiling their flower garden.—A FLOWER GARDENER.

ROSE SHOWS.

I SINCERELY hope that the National and every other metropolitan show committee will carry out the suggestion made by "A LOVER OF ROSE SHOWS," and provide classes for nurserymen and amateurs living within a short distance of the City.

There is one other point in the arrangement of Rose show schedules which has always somewhat surprised me—that is, that, unlike almost all dog, poultry, and other shows, the names of the judges are never printed thereon. I think if they were it would be a guide to intending exhibitors. In this way "WYLD SAVAGE" wrote in the Journal a short time ago—"Mr. Turner has several times spoiled his stand by putting in a treble of Paul Neyron," or words to that effect. Judging from this I should suppose that Mr. Turner likes this Rose, and that "WYLD SAVAGE" very much dislikes it; therefore, if I saw from the schedule of a show at which I intended to compete that "WYLD SAVAGE" was to be the principal judge

I should not put in a Paul Neyron if I could possibly get another Rose, while, on the other hand, if I saw Mr. Turner's name as leading judge, if I had at all a decent bloom of this variety I should insert it. There are many other cases in which the knowledge of the names of the judges would be of assistance to competitors.—EXHIBITOR.

THE CLEMATIS.

CLEMATIS are all beautiful, and are becoming so numerous that the time has arrived to make selections instead of forming exhaustive collections, at any rate for gardens of ordinary extent.

Who is there that does not admire our own native wilding *C. vitalba*, better known in some localities by its familiar title of Traveller's Joy? I have seen old lodges over which it has crept completely enveloped in a cloud of its long silvery bearded seed clusters, and it is even more ornamental when hanging, as it sometimes does, in wreaths and festoons among the branches of trees. It sometimes rambles so far and forms such a dense tangled growth, that in some parts of Kent where it is thus found growing among the underwood the woodcutters term it "Poor Man's Hindrance." Not only for woodland walks should it be employed, but any suitable position, however prominent. I saw nothing more beautiful at Pentilie Castle in Cornwall than a huge cluster of it that had climbed over an old tree in the midst of the dressed grounds.

Equally beautiful in its way—much more so in the eyes of many, but with a beauty that is more fleeting—is the Himalayan species, *C. montana*. Its white flowers open in spring in such dense clusters that they may be compared to a snow wreath, and, unfortunately, in unfavourable weather the comparison holds good as to their duration. Such was the case in the spring of the present year, but usually they continue in full beauty for some weeks. It grows with singular rapidity, and its stout pliant branches possess the important merit of retaining the abundant foliage in its green state throughout winter. Another familiar old species—very old, but worthy to rank with our choicest hybrids, is *C. flammula*, brought over from France ages ago. Its so-called white flowers have a decided yellow tinge, cluster quite as thickly as the Indian species, are in full beauty in August, and, best of all, have a delicious and delicate perfume.

Few genera have a wider distribution, almost every country having one national species, some many. North America has its Traveller's Joy; Japan, among numerous other floral treasures, gives us *C. florida* and *C. patens*, from both of which we have numerous garden hybrids, and a still greater number from the Chinese species *C. lanuginosa*.

Coming back to Europe again we have the Spanish species *C. viticella*, which with its four varieties *cærulea*, *plena*, *purpurea*, and *tenuifolia* has long been known in this country, and from these, too, we have some few fine garden hybrids. I am not, however, writing a history of the Clematis, and need not therefore enumerate species that are more curious than ornamental, or which have become insignificant beside the varieties raised during the last eight or ten years, and of which I may now usefully select a few worthy to associate with Jackmanni. Of such I will take Miss Bateman, a spring-flowering variety of the *patens* type, with white flowers having a central stripe of pale yellow along each petal. *Velutina purpurea*, of the Jackmanni type, very dark in colour, which may be described as a rich dark crimson. Lord Lonsborough, with rich mauve-coloured maroon-striped flowers. Mrs. S. C. Baker, a charming kind with pretty delicate pink flowers. The Queen, another of the *patens* type, with pale lavender flowers. Thomas Moore, a distinct and novel variety with flowers of a peculiar and pleasing shade of violet, and with white stamens. Fair Rosamond, a sweet-scented variety with pretty white flowers tinged and striped with red. Vesta, creamy white, with conspicuous dark stamens. Lucie Lemoine, with fine white double rosette-like flowers; and the still finer double lavender-blue variety Countess of Lovelace. There are some dozens of others ranging through a wide gradation of colour which cannot be noticed here, and I will add no more to the few choice kinds I have named, for if I were to begin wading among the many shades of crimson, lavender, purple, and white it would only serve to confound those whom I wish to assist.

A very general and ardent wish to understand and master its propagation is a natural outcome of the popularity which the Clematis now enjoys; and among the several methods that

have found favour I do not remember seeing mention made of the simplest and best way of all, and that is to take cuttings of the tender young shoots in spring, cutting them to a joint as you would a Geranium or Verbena, and dibbling them in silver sand under a bell-glass. I have done this, and by way of trial put some in a stove, some in a hotbed, and others in a vinery, and all of them grew readily enough. The cuttings were taken from plants of Jackmanni and Prince of Wales growing in the open air, but the weather had been very genial, and no cold cutting winds have blasted or browned the young growth. For greater certainty, if I wanted a quantity, I should prefer some old plants in pots kept entirely under the shelter of a glass house or pit for that especial purpose.—EDWARD LUCKHURST.

MESSRS. OSBORN & SONS' NURSERY, FULHAM.

A FERTILE soil and a position well sheltered by trees are important advantages possessed by this old-established nursery. That it is an old nursery and the soil good is sufficiently testified by the age and size of a few ornamental trees, the remnants of "stock" which was planted in the grounds generations ago. Some of the glass structures also savour of antiquity—they are possibly octogenarians—while there are others of more modern date, middle-aged structures, stout and strong, and others, again, are comparatively new; but all are occupied, and well occupied, by plants also old and new, for old plants are not despised any more than new introductions are overlooked. It is meet that it should be so, for it is an old firm with a young head, and is not at all likely to lose its "matured" character, nor to be in any other position than "well abreast of the times." Therefore if the business is old it is healthy; everything about the place denotes that—the trees, the shrubs, the flowers, the absence of weeds, and the brisk business movements of the officials—all indicate health; the familiarity of the name, too, to readers of gardening literature, and the position of the firm at leading exhibitions, are evidence also of enterprise.

The Fulham Nursery was established by Christopher Gray about the beginning of the last century. Catesby, Collinson, Miller, Dr. Garden, and other eminent botanists and travellers contributed many rare plants, and great part of Bishop Compton's collection was purchased by them from the Bishop's successor. The first *Magnolia grandiflora* was planted here; the original tree, the parent of most of the older trees of this kind in the country, died some years ago. Its trunk measured 4 feet 10 inches in circumference, its branches extended 20 feet, and it was as many feet high. This nursery passed successively from Gray to Burchall, and from him to Messrs. Whitley, Brames, and Milne to the Osborne family.

The nursery is not a large one—that is, it is not a gigantic establishment; neither is it a small one. Its area exceeds twenty acres, chiefly devoted to the cultivation of ornamental deciduous trees and fruit trees, an equal extent of ground at Sunbury being mainly occupied with Conifers, evergreens, Roses, &c.

Perhaps the most striking objects in the nursery are the old trees, the most prominent of which is the original specimen of the Fulham Oak (*Quercus Fulhamensis*). This tree was figured in Loudon's "Arboretum" forty years ago, and was then "75 feet high; the diameter of the space covered by the branches 54 feet, and the diameter of the trunk at 3 feet from the ground 3 feet 10 inches. There is a great similarity between the foliage of this tree and that of the Lucombe Oak. But however alike the trees may be in foliage they are very different in their habits of growth, the Fulham Oak being a branching tree, with a round head and a comparatively smooth though still somewhat corky bark; and the old Lucombe Oak growing with a straight erect trunk, regularly furnished with branches, and forming both in its young and old states a conical spiry-topped tree, with a more rough and corky bark than the other. In the Fulham Nursery there is a full-grown tree of the old Lucombe Oak, as well as one of the Fulham Oak, which strongly display the characteristic difference between the two trees. The age and origin of the Fulham Oak are unknown; but Mr. Smithers, an old man who has been employed in the Fulham Nursery from his youth, and who remembers the tree above forty-five years, says that it always went by the name of the Fulham Oak, and that he understood it to have been raised there from seed. We have examined the tree at its collar and down to its main roots several feet under ground, and from the uniform texture and thick corky

character of the bark we feel satisfied that it is not a grafted tree. In fine seasons this variety produces abundance of acorns, from which many plants have been raised. These plants, though they have the leaves more frequently broad and dentate than narrow and sinuate or pinnatifid, yet vary so exceedingly that they could hardly be sold as the genuine Fulham Oak. Hence that variety can only be propagated by grafting, and the stock ordinarily used is the common Oak, on which the Fulham Oak takes as freely as the Apple does on the Crab." According to that account the tree must be nearly or quite a hundred years old. It is a splendid specimen, still healthy and vigorous. Yet notwithstanding the close examination and verdict recorded, the tree is undoubtedly grafted, for a branch of the common Oak is now growing from the trunk close to the ground, which settles the point.

Amongst other noteworthy trees in this nursery we observed *Magnolia Thompsoniana*, a real old timber tree, also a striking standard with rugged arms of *Wistaria sinensis*, which must be a "picture" when in flower. There is a fine example of *Sophora pendula*, and a remarkable specimen of the American Nettle Tree (*Celtis occidentalis*). *Gymnocladus canadensis*, *Koeleria paniculata*, *Diospyros Lotus*, and *Laurus Sassafras* also merit notice.

The glass structures are tolerably extensive. Near the entrance to the nursery is a very large span-roofed house which at the time of our visit was occupied with a clean and healthy collection of decorative plants in various sizes, some large, some small—*Cordylines*, *Phormium tenax variegatum* in fine colour, Palms, Tree Ferns, Yuccas, *Aracarias*, &c., with flowering plants of *Gloxinias*, *Fuchsias*, and some fine specimens of the new Musk, *Mimulus moschatus Harrisoni*, which is not only powerfully scented, but is attractive by its bold bright flowers. On the roof are trained *Tacsonia Van-Volxemi*, *Clematises*, and other climbers. Under the stage of this house is a large mass of the old Cape bulbous plant *Anomatheca cruenta*. It appears to be quite established, and has grown in the same place for many years without having received any cultural attention. Even in that semi-dark place it grows freely, and its rich crimson-scarlet flowers are much esteemed for bouquets. This plant is nearly or quite hardy, and it is a little surprising that it is so seldom seen in gardens. It was introduced from the Cape of Good Hope in 1830. The elegant Bladder Fern, *Cystopteris fragilis*, also grows wildly under the stage of this house.

Connected with this structure is a long range of lean-to houses filled principally with Palms and a general collection of stove plants and Ferns. Palms are extensively grown, medium-sized and small plants of the most useful and popular kinds. *Areca Baueri* is distinct by its dark fronds and appears to be in great demand, as also is *Areca crinita*. There is also a fine stock of Mr. Herbst's new Palm, *A. Herbstii*, very delicate in colour and elegant. *Versaffeltias* in variety, *Kentias*, and *Cocos Weddelliana* are well represented. Of the last-named and graceful Palm there are some hundreds of plants in small pots, a valuable stock of one of the most attractive of the slender-growing Palms, and in fine contrast with it is the boldly majestic *Stevensonia grandifolia*. The house also contained the best of the *Crotons* and *Caladiums* and other fine-foliaged plants, also a stock of a richly coloured broad-spined variety of *Anthurium Scherzerianum*. At the back of the range is the fernery, where a collection of Ferns old and new are accommodated. *Lomaria gibba* var. *bella* that was raised here some years ago is distinct and fine, and not less distinct is Messrs. Veitch's new crisped Maidenhair Fern *Adiantum Luddemannianum*. *A. farleyense* and *A. gracillimum* are in capital condition. Other Ferns are worthy of notice, but only one of them can be alluded to—namely, the Sweet-scented Fern, *Asplenium fragrans*. It is to be regretted that this remarkable Fern is not more plentiful. It is of dwarf growth, and has elegant fronds with the perfume of Violets. It is rather a slow-growing Fern and cannot be increased rapidly, otherwise it would be included in all collections. It was brought from Jamaica towards the close of the last century. Its odour is most distinct and agreeable—just the fragrance of Violets but not quite so intense.

In another portion of the grounds are other houses, one of which contains a healthy stock of the valuable conservatory plant *Luculia gratissima* and other cool-house plants. A stove contains Orchids, *Gardenias*, and ornamental-foliaged plants, another large house being filled with *Camellias* and *Azaleas* all in excellent condition. Of the useful *A. amœna* there are many healthy plants, and on the wall of the house out-

side a Camellia has grown without any protection for many years.

Some light well-ventilated structures are employed for growing Vines in pots. Of these there is a considerable number, and finer canes and cleaner foliage it would be difficult to find. Many of the canes are sold. They are stout, short-jointed, and contain those bold eyes which gardeners delight to see. They have been grown by Mr. Fancourt, the present manager of the glass department, and they do him great credit. Figs are also well grown in pots, small bushy plants, Negro Largo being one of the most popular. It is one of the best of Figs, and the demand for it increases yearly. Besides the houses there are several brick pits and all occupied. In the front south wall of one of them the Wall Rue, *Asplenium Rutamuraria*, appears to be naturalised. In this—the frame department—a collection of hardy perennials and alpine plants are grown in pots plunged in ashes ready for safe transport at any time and to any distance.

A collection, evidently a very old one, of hardy border flowers is growing in the grounds—a favourite collection with Mr. Osborn, both on account of its long-established character and the attractiveness of many of the plants. Amongst them *Geranium sylvaticum flore-pleno* was very gay, as were the *Veronica maritima*, *dentata*, *amethystina*, &c. *Hieracium*, *Potentilla* (P. William Rollisson was very fine), *Solidagos*, *Oenotheras*, *Lythrums*, and other plants of this nature were also attractive. There is also a collection of hardy bulbous plants in beds, and the best varieties of Clematises are planted by the sides of the walks and trained up poles.

Fruit tree culture is an important feature of this nursery, and under Mr. Pitman's experienced supervision it is well and extensively carried out. Not more care is exercised in producing healthy well-balanced trees than is given to their correct nomenclature. Peaches, Nectarines, Plums, &c., are well trained, and to all appearance will sustain the reputation of the nursery. Many trees are also grown in pots for fruiting in orchard houses, the demand for these being considerable. These trees—what there are left of them—are clean and sturdy with well-ripened wood.

Ornamental deciduous trees and shrubs are also represented in considerable numbers and in good condition, for if this is an old nursery and contains other notable examples of venerable trees than those above noticed, it contains also fresh young stock appropriate to the demands of the present time. In a word, the nursery is well furnished in the several departments, and is in admirable working order throughout.—VISITOR.

AMESBURY FREE GRAMMAR SCHOOL OF MR. JOHN ROSE.

ON November 19th was observed as the Bicentenary of this school, founded by the gardener to Charles II. and opened on November 19th, 1677, by the Rev. John Shorthose, afterwards rector of Stanton St. Bernard, Wilts. Mr. Rose was gardener at Dorney Court, Bucks, where, on the authority of an oil painting still hanging at Kensington Palace, he is said to have grown and presented to Charles II. the first Pine Apple ripened in England. After this he was gardener to Lord Essex, who sent him to study the gardens at Versailles, and on his return from France he was appointed to St. James's Park Gardens. He was buried at the church of St. Martin-in-the-Fields, September 17th, 1677. A special service was held at 2 p.m. in the parish church, on the south side of which Mr. Rose placed his school by the permission of the ordinary, and many can remember when the door of the transept was called still "The School-door." At this about eighty of the Trustees and scholars past and present assembled to thank God for the liberality of the founder of the school. A most suitable sermon from Heb. xi. 4: "He being dead yet speaketh," was preached by one of the Trustees, the Rev. E. Duke, a lineal descendant of one of the original "beloved and trusty friends" to whom Mr. Rose entrusted the care of his new school, George Duke, Esq., of Lake; and a son of the Rev. E. Duke, who for more than forty years took the greatest interest in Rose's school both as trustee of the property and examiner of the scholars. The service was followed by a dinner given by the Trustees to the foundation scholars, past and present, of the master Mr. E. W. Flower, and by Mr. Sandell to the other present scholars; and nearly fifty of the "old Roses" joined at their own expense. After the toasts "Church and Queen," "The Preacher, with many thanks for his sermon," "Sir E. Antrobus, with thanks for the use of the room," where formerly

Rose's school was held, the Vicar proposed "The Memory of Mr. John Rose," and gave a short sketch of his life mainly taken from the *Journal of Horticulture* for August 5th, 1875. Mr. Rose was gardener at Dorney Court, and afterwards to Lord Essex in the Strand, who sent him to Versailles to study the gardens there. On his return he became gardener to Charles II. at St. James's Park. In 1672 was published "The English Vineyard Vindicated, by John Rose, Gardiner to His Majesty, at his Royal Garden, St. James, formerly Gardener to Her Grace the Duchess of Somerset," which, it appears, Evelyn reduced to writing from Rose's information. Mr. Rose left by will £10 to the poor of Amesbury, money to purchase a set of silver-gilt Communion plate for Amesbury church, which is still in use, though remodelled in 1853, and has just been restored; and an estate at Ditchett to support the school. This was followed by a very interesting paper by one of the Trustees, Mr. Edwards, on the Old Masters (one of whom in 1687 was the Rev. Thomas Naish, some time tutor to Addison), especially Mr. Wm. Cox, who for nearly fifty years "grounded" not only Rose's scholars, but many of the sons of the most respected families in Amesbury and the villages round, in the rudiments of religion and useful learning. Mr. Rooke responded for the Trustees; and the Treasurer, Mr. F. Melsome, proposed "The Health of the present Master, and Prosperity to the School," and after Mr. Flower's reply, "The Old Scholars" was responded to by Mr. Sandell, Mr. Hunt of Pewsey, and Mr. Henry Gane of George Town, Canada, and many interesting stories of old times were told. Mr. Sargent then, on behalf of the Trustees, requested the master to give the boys a holiday the next fine day; and a social chat, under the genial presidency of an "old Rose," with a few songs, and a reading or two at intervals, brought a very pleasant day's proceedings to a close.—(*South Wilts Express*.)

ROYAL HORTICULTURAL SOCIETY.

DECEMBER 4TH.

DURING the year that is now approaching its termination we have had to record a series of excellent meetings; and this, the last of the periodical gatherings of 1877, has proved a successful one. The work done at these meetings is important work. New plants, flowers, and fruits are subjected to close examination, and their characters are determined by competent censors. Many new and valuable plants have been honoured, and examples of special and superior cultivation have been recognised during the year. Fruit has been less plentifully exhibited, yet some new and worthy examples have from time to time been submitted for examination. Vegetables have also been represented, notably collections which have been grown in the Society's garden, with the important object of determining their merits and correcting their nomenclature. The meetings have thus been essentially useful; yet beyond this many of them have been extremely attractive—have been, in fact, exhibitions of considerable extent and of exceptional merit. The chief horticultural establishments have poured forth their treasures, supporting at the same time the Society and sustaining their own fame and reputation; and private cultivators have honoured themselves and the craft to which they belong by the excellence of their produce submitted to these meetings, which afford the best expression of practical horticulture to be found in this country.

FRUIT COMMITTEE.—Henry Webb, Esq., V.P., in the chair. Five very fine Smooth Cayenne Pines were exhibited by Mr. Miller of Coombe Abbey, and which weighed in the aggregate 25 lbs. A cultural commendation was awarded to them. Mr. Miller also exhibited a variety from Pernambuco, which was recognised as that grown in this country as Prince Albert. Mr. Wildsmith, gardener to Lord Eversley at Heckfield exhibited three bunches of Gros Guillaume Grapes, the flavour of which was excellent, and a cultural commendation was awarded. Mr. Atkins, gardener to Col. Lloyd Lindsay, Lockinge Park, Wantage, sent a very fine collection of Grapes. The two bunches of Muscat of Alexandria were the admiration of everyone from the uniformity of the berries and their fine golden colour. The Alicante were also very large and finely finished; and the Black Hamburgs, though not large bunches, were equally well grown. The Committee unanimously recommended a silver medal. Mr. Sidney Ford, gardener to W. E. Hubbard Esq., Leonardslee, Horsham, exhibited two bunches of Mrs. Pince's Grape, one from a Vine grafted on Royal Muscadine and the other on Royal Vineyard. Those grown on Royal Vineyard produced berries that were quite black and partially shrivelled, the flesh very firm and cracking when eaten, and with a considerable briskness of flavour; those from the Royal Muscadine were not thoroughly coloured, the flesh was much more tender, and the flavour very similar to the other. A bunch of Alicante from a Vine grafted on the Raisin de Calabre was also exhibited,

but the fruit in either case did not seem to have been improved by the experiment. Mr. Bennett of Rabley sent a plant in full fruit of Garibaldi Strawberry. Mr. J. Muir, gardener to C. R. M. Talbot, Esq., M.P., Margam Park, South Wales, sent a very rich collection of Oranges, Lemons, &c., consisting of eight varieties. The trees producing these are more than three hundred years old, and they are annually grown out of doors from the middle of May till the middle of October and wintered in houses without any artificial heat. Some of them are now bearing from four hundred to five hundred fruits.

Mr. William King of Horsham Park sent a seedling Apple of good appearance, but it was not superior to other varieties already in cultivation. Mr. Goodacre, gardener to Lord Harrington at Elvaston Castle, sent a showy little Apple which came as a sport on a tree of a variety called Lord Lennox, but which had no merit to recommend it. Mr. G. T. Miles, gardener to Lord Carington, Wycombe Abbey, sent fruit of a new variety of Tomato which is exactly similar to Little Gem of Bliss. A cultural commendation was awarded.

Mr. E. Gilbert, The Gardens, Burghley, sent two brace of Cucumbers of Col. Trevor Clarke's variety of Telegraph. A letter of thanks was awarded; and the same award was made for a brace of Tender-and-True exhibited by J. McIntosh, Esq., Duneevan, Weybridge (Mr. Taylor, gardener); and for a brace of Improved Telegraph sent by Mr. Roberts, gardener to Baron Rothschild, Gunnersbury. Mr. Wildsmith of Heckfield sent specimens of Veitch's Self Protecting Broccoli, and specimens were also exhibited by Messrs. Veitch & Sons. It was awarded a first-class certificate. Messrs. Stuart & Mein of Kelso sent specimens of Mein's Triple-curved Borecole, a very finely curled variety of curled Kale, to which a cultural commendation was awarded. Mr. E. Dean, Ealing, sent specimens of the American Dwarf Purple Top and Orange Jelly Turnips, to which a letter of thanks was awarded. Mr. Chambers, Westlake Nursery, Isleworth, sent a large basket of Blenheim Orange Apples of very excellent quality, for which a similar award was voted.

A very fine collection of Apples remarkable for size and beauty was exhibited by Mr. Sidney Ford, gardener to W. E. Hubbard Esq., Leonardslee, Horsham, to which a silver medal was awarded. Mr. Skinner of Boughton Monchelsea, near Maidstone, sent a fine collection of Apples as grown in his orchards for market purposes. The specimens were very fine, and a silver medal was recommended. Mr. Robert Fenn of Salhamstead sent a good collection of Apples to be named.

FLORAL COMMITTEE.—G. F. Wilson, Esq., F.R.S., in the chair. Messrs. James Veitch & Sons contributed a very choice, varied, and attractive collection of Orchids, including the magnificent *Cattleya exoniensis*, also *Odontoglossum cirrhosum*, O. Rossi majus, and O. madrense; *Saccolabium giganteum* and *S. minutum*, *Oncidium Forbesi* and *purpuratum*, *Cymbidium Mastersi*, *Sophronis grandiflora*, *Calanthes*, *Maedevallia tovarense*, and several *Cypripediums* including *Schlimi*, *Sedeni*, *selligerum*, *vexillarium*, *anathum*, *marmorophyllum*, *Arthurianum*, and *insigne Maulei*. Messrs. Veitch also exhibited healthy and well-flowered plants of *Fuchsia Dominiana*, raised by Mr. Domy thirty years ago by crossing *F. spectabilis* and *F. veratrifolia*. The foliage is a rich dark green, and the flowers bright orange scarlet. It is a valuable plant for winter decoration, and is deserving of extensive cultivation. Small plants admirably grown and well flowered of *Daphne indica rubra* filled the air with fragrance. *Rhododendron Arthur Potts*, coppery orange, was also included in this group; also *Bouvardia leiantha* with small but brightly coloured flowers. *Poinsettia pulcherrima rosea* was also exhibited. The heads were fine, the bracts broad and of a rosy scarlet colour. A vote of thanks was awarded for the collection, and the Committee recommended that a medal be given for *Cattleya exoniensis*.

Mr. William Bull exhibited a very fine collection of new and ornamental plants, including some fine examples of Cycadaceous plants, the new *Anthurium Veitchii*, *Dracæna Goldieana*, the bright old *Impatiens Jerdonæ*; a wonderful spray about a foot in length, and containing twenty flowers, of *Lapageria rubra superba*; *Dracænas*, Ferns, and *Crotons*. First-class certificates were awarded to Mr. Bull for *Cybotium pruinatum*, a fine Tree Fern from the Sandwich Islands, with bold spreading fronds and hirsute stems; also for *Croton picturatus*, a remarkable plant, both grotesque and elegant. The leaves are first almost cordate, terminating in a slender thread, from which is subtended the secondary leaf, which is about half an inch wide, 3 inches long, and slightly spiral. The plant is well coloured, and will be suitable for table decoration. Also to *Geonoma princeps*, a beautiful Palm with dark and elegant fronds. *Tillandsia Lindlei* was noticeable in this group, for which a vote of thanks was awarded.

Mr. Robert Parker exhibited a collection of cut flowers and sprays of hardy shrubs with ornamental berries. This collection was extremely beautiful. Amongst the berry-bearing sprays were *Rosa rubiginosa* and *Cotoneaster Simmondsii*, with flowering sprays of *Berberis Darwinii*, *Arbutus Andrachne*, *Lonicera fragrantissima*, and *Erica cædonodes*. Amongst the

flowers were *Tritomagrandis*, *Aponogeton distachyon*, *Helleborus niger maximus*, very fine; *Megasea (Saxifraga) rubra*, *Gentiana acaulis*, *Tussilago fragrans*, *Mignonette*, *Violets*, and *Pansies*. A plant of *Lapageria rosea superba* had richly coloured flowers, and plumes of *Gynierium argenteum flore-albo* and *G. argenteum flore-roseo* were highly effective. A vote of thanks was awarded.

Mr. Cannell exhibited a box of cut blooms of Zonal Geraniums of remarkable quality. They comprised the varieties to which we alluded last week, and are indispensable for autumn decoration. Some of the flowers exceeded 2 inches in diameter. Also a plant of *White Vesuvius*, a sport from the well-known scarlet variety. The flowers are nearly white and freely produced, and the habit of the plant is compact. A first-class certificate was awarded for this promising variety.

A first-class certificate was awarded to Mr. Turner, Royal Nurseries, Slough, for *Perpetual Carnation Alegatière*. This is a splendid acquisition. The plant is dwarf and sturdy in habit, and the flowers, which are smooth and well formed, are of a glowing crimson-scarlet colour and are produced in great profusion. It is a model market and decorative variety, distinct and of sterling merit.

Mr. Chambers, Westlake Nurseries, Spring Grove, Isleworth, sent plants of *Asplenium viviparum*. It is a very elegant Fern when so well grown as it was here represented. A vote of thanks was awarded.

Mr. Dean sent flowers of climbing *Tropæolum Perfection*. The flowers are well formed and of good substance; they are rich crimson-scarlet with dark veins. It is a very fine variety, and was awarded a first-class certificate.

Mr. Mill, gardener to Lord Rendlesham, Rendlesham Hall, Woodbridge, exhibited a spike of *Oncidium æmulum* with a spike 10 or 12 feet long having a dozen branchlets and eighty flowers. A cultural commendation was awarded, also a vote of thanks to Mr. Mill. Mr. Ollerhead exhibited healthy plants of *Centropogon Luceanus*, proving its value for winter decorative purposes and for affording cut flowers. A vote of thanks was awarded.

Messrs. E. G. Henderson & Son, Pine Apple Nursery, Maida Vale, exhibited plants and cut blooms of *Chrysanthemums*; of the latter a first-class certificate was awarded to Golden Empress of India, the flowers being of good size, incurved, and of a bright primrose colour. Messrs. Jackson & Sons, Kingston, also exhibited *Chrysanthemums*, to one of which—Fulton, Japanese—a first-class certificate was voted. It is an elegant flower of the most brilliant yellow imaginable. *Fulgore*, rosy purple, in the same stand, was also very fine but faded in colour. Mr. Moorman, gardener to the Misses Christy, Coombe Bank, Kingston-on-Thames, exhibited twenty-four Japanese and twelve incurved *Chrysanthemums*, for which a vote of thanks was awarded, and a first-class certificate was awarded to Mr. Moorman for Fulton.

Messrs. W. Paul & Son, Waltham Cross, exhibited examples of the yellow-and-orange-berried Holly, showing the richer colour of the latter; also a very glaucous form of *Picea nobilis*, which is much more handsome than the ordinary type of this Conifer.

A collection of admirably grown plants of the old double *Primula* was sent from the Society's garden at Chiswick. It is a question if this old favourite is surpassed for general usefulness by newer varieties of double *Primulas*.

At the close of the business the then Committees received the thanks of the Council, and the Secretary (Dr. Hogg), was also warmly thanked by the members of the Fruit Committee for his services.

It only remains now to say that all who have been identified with the meetings have discharged their duties willingly and well. Mr. Barron and his assistants appear, one and all, to have exerted themselves in carrying out the wishes of the Council in contributing to the convenience of exhibitors and visitors; and it is only just to say that by the care, activity, and courtesy of the officials the labours of the Committees have been expedited, and the pleasures of all identified with the gatherings have been enhanced. We look back on the passing year with a considerable share of satisfaction, and look forward to the ensuing season with confidence and hope.

THE AMERICAN DODDER (*Cuscuta Cephalanthi*) has long been a pretty and interesting object in the cool greenhouse at Glasnevin, where the little alien was clothing some plant with its pretty pearl necklaces, but it was only the present year it occurred to Dr. Moore to try it out of doors. This he did by attaching it to a plant of *Forsythia suspensa*. The flowers are produced in marvellous profusion in clusters of ten or a dozen at short intervals all along the brown twining stems. Each flower is nearly the size of, and not unlike in shape, that of the Lily of the Valley, and as pleasingly fragrant. Though the frost has destroyed the beauty of the flowers, there is no occasion for apprehension that the Dodder itself will not come safely through the winter, and if permitted to extend itself, clothe a much larger portion of the *Forsythia* with its clustering flowerets next and other years, till ultimately the supporting

plant succumbs to the exhausting operations of this pretty vegetable vampire. The smallest bit of it will grow if attached to any exogenous plant or shrub.—(*Irish Farmers' Gazette*.)

USEFUL GLASS STRUCTURES.

WHERE the soil is dry or can be made so by draining, pits or houses partially below the ground level can be safely formed. They are the most economical of all garden structures, for a maximum amount of heat can be maintained in them by the consumption of a minimum quantity of fuel. In many gardens brick pits are already formed as receptacles for manure over which frames are placed; these are easily converted into low houses, which are far more valuable than frames for propagating and early forcing. It was in considering an existing instance of this kind and seeking to turn the pit to a better purpose that the accompanying sketch was produced.

Fig. 83 shows sections of three houses: A, a snug little lean-to—propagating, Melon, or Cucumber house. B, a semi-

of border flowers. Were I to ask some of those who are interested in herbaceous plants if they were acquainted with *Cimicifuga* there would be a little astonishment at the sound of its name, yet we have such plants in a list published by Linnaeus. They are but a small family and very little known. We are indebted to the North American continent for this little tribe of border flowers. Those who are acquainted with *Actæa spicata* may form an idea what *Cimicifuga* is like. The name is derived from *cimex*, a bug, and *fuga*, to drive away, indicating that the plant is in possession of qualities to expel noxious vermin. If such be the case we ought to have these plants extensively cultivated. We are also told that in North America *Cimicifuga serpentaria* is an antidote against the bite of the rattlesnake.

Our subjects are among the taller-growing plants, and are well adapted for open spaces in the shrubbery as well as the border. They are not particular as to soil. Well-decomposed vegetable matter, sandy loam, and peat, incorporated with the ordinary garden soil, will meet their requirements. They like

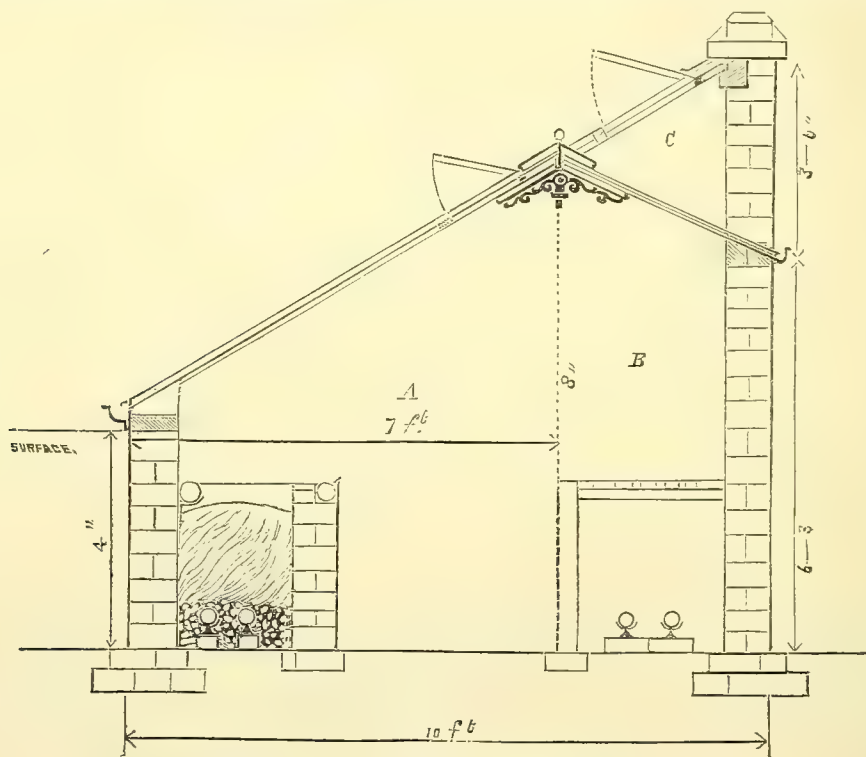


Fig. 83.—Combined Section of Propagating Pit, Melon House, and Vinery.

span possessing all the advantages of A with the important additional one of a stage for stove plants and Orchids; or it could be turned to account for a variety of useful purposes, especially the early forcing of Roses, flowering shrubs such as Deutzias, Weigelas, Lilacs, as well as Lily of the Valley and bulbs. This house would also answer admirably for Vines in pots and Kidney Beans. C shows a section of a loftier elevation—a lean-to, forming the most simple style of vinery as well as the most efficient. Sweep away all internal fittings—the stage, the inner wall, the soil and rubble; put plenty of pipes near the floor, not on it, but just elevated a few inches upon pipe stands, so as to turn all the heat to account and let none of it be wasted by absorption into walls and floors, as is too often the case; pierce the front wall and plant Vines in the soil, and I really do not see what more a skilful Vine-grower would require, or what advantage a more elaborate state of things would confer upon a non-skilful one.—EDWARD LUCKHURST.

OUR BORDER FLOWERS—BUGWORTS.

It seems strange that plants which have been among us for more than a lifetime are many of them not to be met with in a day's journey, and are not even known to many cultivators

moisture, and do not object to partial shade, yet will bear full exposure. They continue long in flower, sometimes until the autumn. They are increased by division in the spring.

There are only some four or five species enumerated. *Cimicifuga serpentaria* and *C. racemosa* are the most commonly met with, and that but seldom. *C. palmata* is perhaps the most desirable of the family.—VERITAS.

ANTHURIUM ORNATUM.

THE plant figured is a notable representative of a noble family of ornamental plants. Most of the species are remarkable for their bold coriaceous foliage, while others are attractive by their handsome flowers. The former section are represented by *A. magnifica*, which is so imposing for stove and hall decoration; *A. crystallinum*, than which few plants have more really handsome foliage, velvety in texture, green, and relieved by ivory white veins; *A. regale*, *A. coriaceum*, *A. cordifolium*, and others which are suitable for indoor decoration at any time and for subtropical effect outdoors during the summer months. The flowering section is made familiar by the brilliant and valuable *A. Schertzerianum* and the pearly white *A. S. Williamsi*. The foliage of these is neat rather

than imposing, but *A. ornatum* has both striking foliage and attractive flowers. This distinct Anthurium is being distributed by Mr. B. S. Williams, who states that in well-grown plants the petioles are about 3 feet long; leaves light green and cordate in shape, from 9 to 12 inches broad, slightly veined with white. The flowers are thrown well above the foliage on stout flower stalks; the spathe, which is pure white, is from

copious supplies of water during the growing season, are the chief essentials to success.

NEW BOOK AND NEW EDITION.

Two new volumes are before us, one small the other large; one to a great extent speculative, the other wholly practical.



Fig. 84.—ANTHURIUM ORNATUM.

6 to 8 inches in length and $2\frac{1}{2}$ in breadth, tapering towards the apex; the spadix, which is about 6 inches in length, stands up very conspicuously, being nearly black, but covered with a violet hue slightly dotted with white.

Anthuriums are of easy culture. Moderate stove heat, great cleanliness of the foliage, very free drainage, and a very rough and open compost of turfy loam, peat, and charcoal, with

We will first refer to the smaller one. It is entitled "*Multum-in-parvo Gardening*," and is published by Crosby, Lockwood, and Co., Ludgate Hill. The object of the author (Samuel Wood) is to show (I) "How to make one acre of land without glass produce by the cultivation of fruits and vegetables £630 per annum clear profit." II. "How to grow flowers in three glass houses so as to realise £176 per annum clear profit."

As if conscious of the startling nature of his proposition, also of the incredulity of the public, the author "fancies some readers laughing at the idea." We rather fancy so too; it is an "idea" of a class to provoke a smile. Yet with that characteristic confidence which figures inspire, Mr. Wood has no doubt of his ability to prove satisfactorily that the handsome sums named can be realised. We do not share the author's confidence in the plan projected, which in Section I. is briefly as follows:—

A series of brick walls are to be built 4 feet high, with a border 4 feet wide on the south side, curbed round with two courses of brickwork, and at the front of the border a path is to be made 2 feet wide. This work "is to be" done by the acre, for we are not told that it has been done. Estimates (too low) are given of the cost of the walls, and the mode of carrying out the "idea" is detailed. On the south side of the walls Peaches, Nectarines, and Apricots are to be planted "about 5 feet apart," and two Tomato plants are to be grown "between each of the trees." Don't smile, gardeners, for recollect this is *multum in parvo* gardening. The reason why Tomatoes are to be so grown is stated to be the "obvious" one that "they cannot be grown without walls or glass." If the author had taken a trip into some of the market gardens near London last summer it would have been equally "obvious" to him that they can be and were grown and ripened "by the acre" in open fields, and we could point, too, to a garden as far north as Lincolnshire where they are successfully grown in a similar manner. We predict that they will be grown on this "impossible" plan much more generally than the new "idea" promulgated in the book will be adopted.

The north sides of the walls are to be covered with Red Currants, the trees to be planted in a border 9 inches wide, which border is also to contain a row of Strawberries which should produce "an average of two hundred fruit per plant"—*multum in parvo* again; or Auricula seed is to be grown instead of Strawberries, and if the seed is of a very superior strain it may be sold for 5s. per ounce, unless "some difficulty should arise in disposing of it," on which account Strawberries are given the preference as they "always sell."

The south borders are to be cropped with early Potatoes and Radishes, which are, perhaps, the most reliable of all the crops recommended, to be followed by Dwarf Kidney Beans, and probably (although that is not stated) by red spider for the Peach trees. Adventitious crops, such as Lettuces, are mentioned, but they are not relied on, as a nett profit of £624 5s. 9d. per acre can be obtained without them. The amount received, after deducting £129 4s. 3d., is accounted for as follows:—

Peaches, Nectarines, and Apricots.....	£330	0	0
Red Currants.....	70	0	0
Tomatoes.....	50	0	0
Radishes.....	156	0	0
Early Potatoes.....	50	0	0
Dwarf Beans.....	58	10	0
Strawberries.....	39	0	0
Total.....	753	10	0
Annual expenditure.....	129	4	3
Nett profit.....	624	5	9

"It is astonishing," adds the author, "what can be done with one acre of land." It is, and we shall be astonished to hear that Mr. Wood has done what he has represented as being so easy of attainment, and the more astonished if it is an average (and it is no use without) of a series of years. The crops mainly relied on, and which involve the greatest outlay in preparations—namely, Peaches, Nectarines, and Apricots, are notoriously uncertain when glass is not afforded them. We have inspected many gardens in different counties during the present year, and notwithstanding that those gardens are under thoroughly competent men, we have deplored with the disappointed managers the failures of the crops mentioned from causes wholly beyond their control. Neither has the year in this respect been particularly exceptional; many similar failures have preceded the dearth of tender stone fruits of the present year, and many more will follow where the trees are exposed. We do not hesitate to say that there are far more blanks than prizes in growing the fruits in question on exposed walls. Shall we, therefore, ignore the teachings of long and dearly bought experience, supported by evidence that in its nature is incontrovertible, in favour of a speculative theory—an "idea?" Notwithstanding the author's confidence in his argumentative ability we continue to indulge in "incredulous smiles." We regard his premises unsound, his logic faulty, and his figures fallacious.

The second part of the book, that relating to the profitable culture of greenhouse plants, consists of only half a dozen pages, which we will dispose of in little more than half a dozen lines. Market plants can be grown profitably by those who have been trained to the trade, and a man, even if he is a good general gardener, may easily invest money in a calling with which he may feel himself familiar, and lose it. We agree that the cultivation of greenhouse plants by competent men is "an agreeable mode of getting a living *supposing*" (the italics are ours) "he is so situated to sell all off as the things come on."

The book also contains an appendix, with nothing noteworthy in it, about insects. It reveals also the cause of the Potato disease—namely, "atmospheric influences" in the form of "sulphureted hydrogen," which communicates the disease to the plants. As evidence of the power of the "atmosphere" on Potatoes we cannot resist quoting the concluding lines of this sensational book at the risk of provoking further "smiles:—"

"The atmosphere seems to affect this plant for good or bad more than it does any other vegetable. I had it once stated to me by an old man whose word I have no reason to doubt that upon one occasion he was in Newfoundland, being one of a ship's crew, when the master set them to plant some Potatoes in his garden, and which were of a white kind, brought out from England. They stayed there until they were ready to dig up, and when this was done they all turned out to be red ones. This proves that the Potato is very easily affected by the atmosphere."

We should not have noticed this book so fully had we not felt that its tone is misleading, and that caution is necessary in putting the author's "idea" into practice.

Our notice on the larger and better book alluded to above—Thompson's "Gardener's Assistant"—must be deferred. We can only say now that it is a sound and splendid work.

NOTES AND GLEANINGS.

DURING November, at Ticehurst in Sussex, just 9 inches of RAIN FELL! The highest temperature was 59° and the lowest 30°. Rain fell on twenty-six days.

A CORRESPONDENT "Q.," writing to us on ZINC LABELS FOR ROSES states—"I have many failures every year, and numbers of dead branches have to be cut away. I am disposed to think that possibly the zinc being fastened on with copper (causing galvanic action), may have something to do with it. The opinions of other rosarians will oblige."

THERE is always something worthy of note in LORD LONDESBOROUGH'S celebrated garden at Norbiton. At the present time several Orchids are attractive, especially *Oncidium Londesboroughianum*, which was not long ago awarded a first-class certificate; it is remarkable on account of its fine and richly-marked sepals and petals. *Cattleya exoniensis* is also flowering and is extremely beautiful, as also are *C. El Dorado splendens*, *C. labiata* and *C. labiata Pescatorei*; also *C. marginata* and *C. marginata prastans*, the last-named being especially fine. *Vanda cœrulea* continues producing a fine display, and several varieties of *Oncidium varicosum* and *Odontoglossum triumphans* are flowering freely; noticeable also are *Masdevallia tovarensis*, white, and *M. Davisii*, bright yellow. Less aristocratic but not less useful is a houseful of the old white *Geranium Madame Vaucher*; the plants are flowering with great freedom and the colour is very pure. Similarly valuable is a stock of robust young plants of *Miss Marshall Fuchsia*, the plants being covered with fine flowers. A houseful of *Heliotropes*, the "old sort," tells at a glance how useful this plant is for affording a supply of flowers, which are always valued during the winter on account of their refreshing perfume. The plants are grown in 48-sized pots. On another occasion Mr. Denning's mode of growing *Eucharis amazonica* may be noticed.

EARLY POTATOES.—Earliness alone considered, the old Ash-leaf Potato is not yet surpassed. It is also very dwarf, and therefore easily covered. Myatt's Prolific and Veitch's Improved Ashleaf yield double the weight of crop, but are ten days or a fortnight later than the first named. There is not much gained by planting earlier than the middle or end of February, and even then only in dry and sheltered positions. The sets should be placed on end at once in a light cellar or shed secure from frost, and they will make strong sturdy shoots before planting.—WILLIAM TAYLOR.

A VERY good proof of the MILD AUTUMN, writes a Fulham correspondent, is shown here by the common Primrose, which

has been flowering since the commencement of November as freely as it usually does in March, and presents quite a gay appearance. *Limnanthes Douglasii* is in full flower, also *Mignonette* is flowering as freely as in July, but it is not quite so highly scented as during the summer.

— Among cut flowers few are more valuable than the CAPE JASMINES (*Gardenias*), one of the most useful of which is *G. florida*. The best way of producing the finest flowers in the greatest number is by having the plants planted out in a well-heated pit. In this way thousands of flowers are cut by Mr. Denning at Norbiton, Mr. Jones at Windsor, and others who have great demands for white flowers of the first quality. In growing *Gardenias* brisk heat and copious supplies of water are of greater importance than soil. We have seen the plants luxuriating in turfy loam, in pure peat, and in a compost in which leaf soil preponderated. A mixture of the three kinds of soil named, with top-dressing of manure, will grow the plants well provided the first essential—water—is applied regularly and freely to roots and foliage. Given this and a sufficiently high temperature, luxuriant foliage and splendid flowers will be produced, and no mealy bug, that inveterate pest of gardeners and *Gardenias*, will be seen on the plants.

— WE extract the following glowing account of *KENTIA MACROCARPA* from the *Irish Farmers' Gazette*.—This new and very rare Palm (the specimen in the Glasnevin collection and one or two more being, perhaps, its only representatives in cultivation), is one of the noblest and most striking of the pinnate-leaved section of the family. The dark olive-green of the stem and fronds is very peculiar, and still more so the fiery tints of the undeveloped frond, which gives it the aspect of a great jet of flame rushing up from the centre of the stem. Just at the present moment the Glasnevin plant is in the condition to show this remarkable feature to perfection.

— LARGE consignments of FOREIGN GRAPES have been recently received by the London fruiterers. Almerian Grapes have been selling at 8d. per lb., and Black Hamburgs at 10d. The white Almerian Grapes are as large as Black Aliantes, and are greenish white in colour. Their flesh is crackling, and their juice refreshing. The Black Hamburgs have been thinned and the berries are of good size. These Grapes are packed in corkdust, which is coarser than sawdust, light and dry. When the bunches are removed from the boxes the corkdust falls from amongst the berries, scarcely a particle adhering to them, and the bloom is only very slightly rubbed. Corkdust is evidently a capital packing material for Grapes.

— WE have received from the Hon. and Rev. J. T. Boscawen a fine flower of *LAPAGERIA ROSEA* which was gathered out of doors on the morning of the 3rd inst. from a plant 25 feet high; this is the more noteworthy since Mr. Boscawen informs us that 8° of frost were registered the same morning in his garden at Lamorran.

— MR. D. F. MCKENZIE, forester, Murthley Castle, writing in the "Journal of Forestry" on the TIMBER TREES OF THE FUTURE, predicts that *Abies Douglasii* will sooner or later take the place of our Larch, and *Abies Menziesii* that of our other Pines. The timber of *A. Douglasii* is as durable as Larch when in contact with the soil as a fence or other post or stob, it being in most cases equally full of resin. It is also much prettier for decorative work and house carpentry. Roofs on the Gothic principle, such as the famous roof over Westminster Hall, London, if done with the wood of the Douglas Fir, could not for beauty be excelled even by the best Oak, as it has naturally a rich mellow colour when of large dimensions. It also lacks the bad qualities of the Larch, as it does not twist or warp, and is not, so far as has yet been ascertained, liable to any disease in this country, while it produces nearly double the bulk of timber in a given time. *Abies Menziesii* is also a rapid-growing timber tree of large dimensions, and its fibre is more elastic and tenacious than Fir or Norway Spruce.

— SOME one inquires how far north the ENGLISH WALNUT will mature its fruit. Mr. Robert Coit has this tree in his garden at New London, Conn., which bears and ripens nuts every year. This year the crop is larger than ever. The tree is at least twenty-five years old, and has been in bearing some eight years. It is sheltered on the north and west by buildings; but in the garden adjoining is another English Walnut tree exposed in all directions. It is an old tree, and has ripened crops of nuts more or less sparsely for twenty years. The latitude of New London is 47° 21' north.

— PROFESSOR ELBRIDGE GALE of the State Agricultural College, Manhattan, Kan., has written as follows on TREES:—

Nothing else can bind families to their homes like trees. We watch their growth from day to day. They are linked in memory often with the bright and sweet things of the past. We learn to love them and to love their history. The ordinary products of the farm soon ripen and are gone, but here Nature slowly unfolds her purposes, requiring patient waiting and constant care for many years: hence men learn to love these trees. They give a peculiar charm in the eyes of the owner to the picture of the home. The farm crops, as a rule, hold the family only from spring to fall, and the owners of stock may roam, like their herds, from hill to hill or from county to county; but he who plants trees finds himself by the strongest possible ties—both of interest and affection—bound to the soil.

NOTES ON VILLA AND SUBURBAN GARDENING.

THE leaves have fallen from the Oak and Beech trees, which generally retain them the longest. We never remember their being cleared so quickly before. The aspect is dreary, and reminds us that winter is close at hand; but the weather continues very open, which is an advantage to all who have alterations in progress. Planting and groundwork generally should be prosecuted with all possible dispatch, for at any time now the ground may be covered with snow, or frost may set in so severe as to prevent further operations being conducted. Clear the fallen leaves from lawns and lightly dig the borders between shrubs, burying all stray leaves to prevent them being blown about all the winter and to give a freshness and tidiness to the garden.

Seakale and Rhubarb may now be lifted from the open ground and placed in heat for an early supply, or the roots may remain in the ground and be covered with pots or boxes, with a sufficient thickness of leaves placed over them to generate a moderate heat, and both Kale and Rhubarb will be ready for use in a few weeks. If the method of lifting the roots is preferred a Mushroom house is an excellent place for forcing them, but any place is suitable for the purpose where there is a genial warmth. Care must be taken to exclude all light from Seakale, otherwise it will be of a purplish hue and useless for table. Endive also blanches well in a Mushroom house, and a few plants lifted as required and placed in the house will in a short time become beautifully white.

Should dull weather continue or frosty nights set in, a little fire heat to exclude both damp and frost will be absolutely necessary both in the greenhouse and conservatory. As there are not many flowers to be had out of doors now it becomes all the more necessary to cherish those which can be had within. *Chrysanthemums*, with the exception of a few of the late-blooming Japanese varieties, will be soon past their best; as they go out of flower cut down the old stems and place the pots close together in a cool house or frame, to cause sturdy cuttings to spring up from the base of the plants. The *Chrysanthemums* may be succeeded by *Camellias*, *Acacias*, autumn-flowering Heaths, such as *Erica hyemalis* and *gracilis*, *Cytisuses*, *Coronillas*, *Eupatoriums*, *Bouvardias*, *Primulas*, and early *Cinerarias*; while with the help of a small stove or forcing pit a constant supply of *Azaleas*—*A. amens* and the large single White are especially adapted for forcing early—*Deutzias*, *Dielytras*, *Lilacs*, *Spiræa* (*Astilbe*) *japonica*, *Richardias*, *Rhododendrons*, bulbs, &c., can be readily furnished. A night temperature ranging from 50° to 55° and 60° will be found to bring these along more satisfactorily than a much stronger heat. *Camellias* coming into flower will, if well rooted, be benefited by occasional applications of weak liquid manure. The complaints we frequently hear of *Camellias* shedding their flower buds chiefly arise from improper watering; the plants are often permitted to become too dry and injury follows. Occasionally the dropping of the buds occurs from the opposite extreme—stagnant soil; but if the drainage is good they are likely to suffer more from insufficiency of water than from over-abundance. The leaves should be sponged and kept clean and glossy.

Bedding plants must be examined periodically and have all the decayed leaves removed, or they may cause the plants to damp off. All watering of these and other greenhouse plants should be done at this season early in the morning; by that practice there is the better chance of the surplus moisture drying up before night. *Calceolarias* which are intended for specimens must not be allowed to become pot-bound, but must have larger pots before the roots become matted. Well-drained pots and rich but light sandy soil are necessary to promote luxuriance. These plants and *Cinerarias* may be kept in cold frames if well protected; for although they will flourish in a very low temperature they are very susceptible to injury by frost, especially the *Cinerarias*.

Schizostylis coccinea is a valuable plant for indoor decoration at this dull season of the year; its abundant supply of rich scarlet *Gladiolus*-like blossoms is exceedingly attractive. Plants may be increased by dividing the roots in spring, planting them in the open ground, and potting them again in the autumn.

when the flower spikes commence showing. They remain gay until the end of the year, and well reward for any cultural attention that has been bestowed on them.—J. W. MOORMAN.

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

KITCHEN GARDEN.

Our own work in this department is in a forward condition. Digging and trenching, mulching borders, and protecting crops and plants with rough litter when necessary, must be seen to without delay. Where wheeling has to be done it will be necessary to lay light planks on the alleys and paths, unless the ground is hard with frost. So far there has not been sufficient frost to render the surface crisp and clean.

At any time when the ground is saturated with wet and in a too sloppy condition to be dug or trenched with advantage, the corner where the various heaps of manure and vegetable soil are kept may be made neat by turning the heaps over; the vegetable refuse-heap is too often in a very untidy condition. The kitchen boy carries all his trimmings of vegetables there; herbaceous and bedding plants from the flower garden, decayed Pea haulm, stumps of Cabbages, Cauliflowers, &c., are tumbled down in a disorderly manner. In turning over this heap the outer portion that has made little progress in decay should be turned into the centre and the bottom of the heap be brought to the top. Where manure is scarce and leaves plentiful a quantity of the latter may be mixed with the refuse of the kitchen garden. A valuable heap may be formed in this way, and could a few hundred gallons of the drainings from a farmyard be thrown over it occasionally its manurial properties may be much increased, and it may also cause the organic matter to decay more rapidly.

Where forced vegetables are in demand preparations must now be made to start them in the way best adapted to the circumstances of the place. We have tried many different ways to obtain an equable lasting heat, but that of forming a bed of leaves and stable manure is the best, and where each can be obtained on the place the most economical, as the bed forms excellent manure when it has served its purpose as a hotbed. *Asparagus* may be forced in pits or common garden frames. The way we do is to throw an equal quantity of leaves and manure together in a heap, and turn it over about twice in a period of ten days or more to throw off the rank steam, when it may be thrown into the pit or be built into a bed for a frame. If the heat is rather strong it is a good plan to lay some turf over the surface with the grass side down, and on this plant the *Asparagus* in fine soil as thickly as the roots can be placed together. *Seakale* and *Rhubarb* may be forced in various ways, and those who possess a Mushroom house will be able to produce a regular supply from that structure. The roots may be planted thickly in a bed on the ground. Bottom heat is not necessary, the crowns will start regularly and strongly in a temperature of 55°. We grow ours either in the vineries or some other forcing houses. The *Seakale* roots are placed in 12-inch pots thickly together and another empty pot of the same size is placed over it, the drainage holes being stopped to exclude light. We manage the *Rhubarb* well by placing the roots at the bottom of flour barrels, which can be readily obtained here. We either place a lid on the top or throw a cloth over it to exclude light.

Dwarf Kidney Beans may also be sown, and perhaps the best way is to sow thickly in boxes, and when the seed leaves are fully developed to pot the plants off five or seven in 7 or 8-inch pots, using good loam four parts to one of decayed manure. A temperature of 60° at night suits the plants well, and they ought to be placed near the glass.

MUSHROOM HOUSE.

Some few weeks ago instructions were given as to the making-up and spawning of the beds. Keep a moist equable temperature of 55°; in mild weather this may be increased to 60°, but it ought always to be borne in mind that if this temperature is obtained by too much heat in the flue or hot-water pipes without corresponding moisture by evaporation, any Mushrooms that may be produced under such conditions will be small and leathery in texture, scarcely worth the trouble of gathering. Under the right conditions, with moisture produced from walls and paths (not by steaming from hot pipes), the Mushrooms will be formed under conditions most conducive to their perfect development. To arrest evaporation from the surface of the bed it is a good plan to place a layer of clean oat straw on the surface. It ought to be laid on lightly, and the produce of the beds can be gathered by lifting it up gently with one hand or a stick, while the other is used in gathering. The bed must be watered when it is dry, not otherwise. A little experience is necessary to judge of the proper state the bed ought to be in when it is watered; but it is better to err on the side of dryness than to overwater, as the spawn and incipient Mushrooms decay in a wet bed. The water should

be applied through a fine rose water pot, and the temperature of the water should be about 85°. An experienced cultivator can tell when a bed requires water without rooting with his hand into the bed, and by merely putting his head into the house in the morning he can also say whether the atmospheric moisture and heat is right, and the sooner the tyro attains to this degree of intelligence the better. Sometimes beds will continue bearing for a long period, at others a large crop is produced and exhaustion follows, and when a bed has ceased bearing it is best to clear it out and make another. To keep up a certain supply of good Mushrooms it is necessary to have three beds in different stages, made up at intervals of three or four weeks.

VINERIES.

The unfavourable weather alluded to a fortnight ago has not improved, and great care has been necessary to prevent the skin of the berries from decaying. We have not yet removed all the leaves, nor do we care to do so as long as they hold firmly to the stem. It has been necessary to frequently examine the bunches and remove the injured berries.

We start one of the early houses this week. Everything has been ready for this since October. We now water the borders inside and out with tepid water. The outside border has been covered with shutters to throw off the rains. After watering we mulch the surface of the borders with decayed manure. Very little artificial heat is applied during the first two weeks, only enough to keep the temperature to 45°, rising to 50° about eighteen days after watering the borders.

Vines in pots started in October will now be making growth, and the temperature of the house may range about 60° as a minimum. We still hold under all circumstances that it is best not to syringe the Vines after all the growths have fairly started. Previous to this we dew the wood over once or twice a-day to moisten the bark and cause a regular break of the buds. It will depend upon the growth of the Vines as to whether any pressure may be put upon them by maintaining a higher temperature. If the growths are strong and root-action has commenced, and the fruit is required as early as possible, then the temperature may be 65° at night, and this ought not to be exceeded until the bunches are in flower, when it may be 70°, or between 65° and 70° while the berries are setting. Black Hamburg and Foster's White Seedling are the best Vines to grow to produce fruit in pots, but if a large quantity is grown we would have six of the Hamburg to one of Foster's. See that the pots do not suffer from want of water. A large supply is wanted when the Vines are in full growth.

ORCHID HOUSES.

The utility of Orchids in furnishing a supply of beautiful flowers at this season of the year becomes more apparent as Christmas draws near and *Chrysanthemums* show signs of fading. Orchids last long in beauty if the atmosphere of the houses is not kept too moist. An over-moist atmosphere, either at midsummer or midwinter, will cause the flowers to spot and decay before they have reached their prime, but a little discretion in the use of the water pot will prevent this. We have *Dendrobium nobile* in flower, and other plants of it in bud. This is one of the most useful as well as easily grown of Orchids. We have one large plant which annually produces from two hundred to five hundred flowers each year about Christmas, and no plant requires less attention; it has not been repotted for six years or more. The pot is about 18 inches in diameter, and every part of the compost is interlaced with active roots. The plant is kept in heat until June, when it is placed in a vinery from which the Grapes have been cut, and in July it is turned out of doors for a couple of months, no water being given to it nor any rain allowed to saturate the roots; a gentle shower just to moisten the foliage and surface of the pot does no harm.

Calanthes are as beautiful as ever. Unlike some Orchids they do not rest for a season if they have flowered profusely the previous one; but every year the number of spikes increase in a double ratio. *C. Turneri* should be in every collection, as it comes into bloom when *C. vestita* and *C. Veitchi* are over. The decaying leaves of these plants are unsightly and should be removed if possible. Ours are hid by the thicket formed by the arching fronds of *Maidenhair Ferns*. The *Odontoglossum grande* and *O. Insleyi leopardinum* are now in full beauty, and though not so useful in the way of cut flowers as some others, nevertheless they form a striking feature in the cool house. *O. crispum* (Alexandre) is also as valuable for cutting as for forming a pleasing feature in the house; in contrast to it the distinct and noble *Masdevallia Veitchi* is very fine. It may well divide the honours with *M. Harryana*, as being the finest in the genus. The former has the advantage over its rival that specimens may be had in flower both at midwinter and in the dog days; we have them flowering at both seasons from the same importation.

Some growers are recommending a higher temperature for cool Orchids, notably for *O. crispum* and allied species. We find they succeed well with a night temperature of from 45° to 50°. The *Cattleya* house is kept at from 50° to 55°, which is

also lower by 5° than many persons grow their Cattleyas. The East Indian house is best kept at 65°. We sometimes have it fall to 60° in cold nights, and this is better than driving the furnace to keep it up to the highest figure. We have been washing the wood and glasswork of the houses to let in all the light. This is a most important matter, as if the foliage is not fully exposed to all the light possible in winter some of the plants will not flower freely. We have also examined all the leaves and pseudobulbs for scale, thrips, and other insect pests. An invasion of a small species of snail has also caused us much trouble. It eats the young rootlets as fast as they are formed, and very much weakens the plants from this cause. With the aid of a bull's-eye lantern the snails can be found feeding at night.—J. DOUGLAS.

TO CORRESPONDENTS.

* All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

BOUVARDIA CULTURE (C. J. F.).—We cannot account for the reference and omission.

NAME OF ORCHID (A. H. S.).—*Cattleya Loddigesii* var. *Harrisonii*.

EARLY POTATOES (P. S.).—See the remarks of Mr. W. Taylor in another column.

SCALE ON APPLE-TREE SHOOTS (Capt. P.).—It is a species of coccus or scale insect. Brushing over the shoots with a thick mixture of soft soap, sulphur, and water is an effectual remedy.

CLEMATIS AND THEIR PROPAGATION (Hortus).—See notes by Mr. Luckhurst on page 434.

WINTERING PEACH TREES—PRUNING TEA ROSES IN POTS (Puddle).—If the district is a dry one the trees do not suffer if the pots are plunged over the rim in some light material. They could be kept in the greenhouse if you merely have sufficient heat to keep the frost out, and probably that would be the best advice to give. By no means place any of them in the cellar. Prune the Roses now if you want them to flower early. If it is intended that they should flower late, prune in February.

TREES FOR PEACH AND ORCHARD HOUSES (Cherry Pie).—The best for Peach house are Hale's Early, Early York, Royal George, Grosse Mignonne, Walburtion Admirable. Nectarines Lord Napier, Violette Hative, Pine Apple, and Victoria. It is best to plant the orchard-house trees out, that is if you grow only Peaches and Nectarines. Pears and Plums do best in pots. We advise you to try all the trees in pots to begin with. Cherries and Apricots do not succeed with the others. They require a drier atmosphere and more air, but you might try a few of each. The trees will be small to begin with, but we would not have more than about fifty of them, and our choice would be—*Peaches*: One Belegarde, two Crawford's Early, one Dr. Hogg, two Early York, three Hale's Early, three Grosse Mignonne, three Royal George, and one Walburtion Admirable. *Nectarines*: Two Elruge, two Lord Napier, two Stanwick Elruge, three Pine Apple, two Violette Hative, and three Victoria. *Pears*: 1, Beurré d'Amélie, one Beurré Bachelier, one Beurré Hardy, one Beurré de l'Assomption, two Louise Bonne of Jersey, two Souvenir du Congrès, and two Williams' Bon Chrétien. *Plums*: One Jefferson, one Transparent Gage, one Coc's Golden Drop, one Kurke's, one Green Gage. *Cherries*: One Black Tartarian, one Bigarreau Napoleon, one Early Rivers. *Apricots*: Moorpark and Peach.

THRIPS (G. Y.).—Fumigate with tobacco smoke, and dust the plants with Scotch snuff. Repeat the treatment until the insect ceases to appear.

WATERCRESS CULTURE (Miss E. H.).—We know of no work on the subject. Directions for its culture in a border is in this Journal, No. 789 and No. 654.

BEST SIX VIOLETS AND TWENTY-FOUR LARGE-FLOWERED CHRYSANTHEMUMS (R. H. A.).—*Six Violets*: Neapolitan, Russian, Giant, London Blue, Czar, and Victoria Regina. *Twenty-four Chrysanthemums*: Mrs. Rundle, White Globe, Beverly, Empress of India, George Glenny, Mrs. Dixon, Princess Teck, Cherub, Prince Alfred, Princess of Wales, Prince of Wales, Eve, Lord Derby, Pink Perfection, Le Grand, Nil Desperandum, John Salter, Lady Harlinge, Her Majesty, Aurea Multiflora, Jardin des Plantes, Hero of Stoke Newington, Venus, and White Venus.

TREATMENT OF LILIUM LANCIFOLIUM (Inquirer).—Pot them now and plunge the pots in your garden frame. They do not succeed well in ordinary garden soil. If you could obtain some turfy peat or turfy loam in which to plant them they do well if planted-out in the open ground now; if you have not this convenience turn them carefully out of the pots and plant in May.

MANURING (Sambro).—Manure applied to Rose trees is apt to cause excessive growth and few flowers. This effect is not produced on Carnations. Manure is needed to both Roses and Carnations if the soil is poor.

CUTTINGS OF EVERGREENS (Glossop).—Nearly all evergreens may be struck from cuttings, but many of them require to be inserted in sand under hand-lights, especially Hollies and Eucynomus. Cuttings of Laurels, Yews, Aucubas, Laurustinus, and Mahonias will strike, but not quickly, if inserted in sandy soil in a shaded border in the autumn. You might try them now, selecting well-ripened short-jointed shoots about 6 inches long with a little of last year's wood at the base of each. Insert them firmly and rather closely in rows a foot apart, and there let them remain for two years. The price of the book you name is, we think, 3s. 6d.

POTTING EPACRIS AND APHELEXES (A Reader).—After the flowering

sprays have been removed and fresh growth has fairly commenced in the spring, is the time for repotting these plants. Drain the pots well and pot firmly.

CELEBY (Wolverhampton).—Cole's Superb, there are red and white varieties of it.

GRAPES NOT SWELLING (Bay Leaf).—If the Vines planted three years have made good growth and produced a fair crop of fruit this year, we do not see that the fact of there being a rain-water cistern beneath the border has anything to do with the fruit not swelling. Three reasons may be given for undersized berries—insufficient thinning, want of water, a sudden and continuous reduction of temperature just as the fruit is commencing swelling. As to manure water poured upon the border soaking into the cistern and making its water foul, we can only advise you to pump out the water and thoroughly cover the interior of the cistern with Portland cement. If the "manure water passed through the soil nearly as strong as when poured on the border," it simply proves that the border was much too dry when the liquid was applied, and that we suspect is the real cause of the Grapes not swelling.

PLANTING A VINERY (Inquirer).—Your selection of sorts is a good one, but you have too many. A house 33 feet long will contain eleven Vines planted 3 feet apart, each Vine having a single rod trained-up under the roof, the entire area of which would thus be taken up, so that Vines in pots beneath them would be always in shade. If, therefore, you have such Vines, reduce the number planted-out to six, planting them 5 feet apart so as to admit light between them to the Vines in pots. Much better would it be to have eleven permanent Vines, and to have none at all in pots except for the first year, when you might train some fruiting canes between the permanent rods, also on the back wall.

NAMES OF FRUITS (B. A. H.).—No Apples have arrived. (C. R. S.).—Passee Colmar. (Alfred Goodman).—1, Hawthornden; 2, Damelow's Seedling; 3, Golden Requette; 4, Blenheim Pippin.

NAMES OF PLANTS (J. L.).—It is not a Maple, but *Eucynomus europæus*. (B. C.).—Specimens all smashed. It would occupy a page to detail colour-mixing.

POULTRY, BEE, AND PIGEON CHRONICLE.

BIRMINGHAM POULTRY SHOW.

MOTHER BIRMINGHAM once again reminds us that Christmas approaches, and it would indeed be "a gap in our great feast" if we lost our entertainment at Bingley Hall. Last year, in consequence of the decision of the Smithfield Club not to receive cattle from the Midland Counties Show, the Committee decided to follow the Show at the Agricultural Hall in lieu of preceding it; but this did not improve the fortunes of the Show by either an increase of visitors or exhibitors, and this year the Management have elected, and we think wisely, to return to their old dates, and we trust the result will prove satisfactory.

Brahmas, Dark.—The old Dark cock class we thought an improvement on the Palace. The cup bird was a grand specimen, beautiful in colour, with a good head, pretty comb, and legs well feathered but a little too long, and we fancied rather weak, as he did not stand well. Second (same owner), fine-looking, not so richly striped in the saddle as the first, and we thought a little hooked; third coarse in comb; fourth a nice specimen. **Cockerels.**—First a pretty bird of good colour and markings, and neat in head; second deserving his position; fourth, the Aquarium and Alexandra Palace winner, very much out of condition and looked distressed from hard work. Hens.—We thought the position of the first and fourth should have been transposed. The first was well shaped and prettily pencilled, but had a rusty appearance; second better in colour; third attractively pencilled, but for size and general points we preferred the fourth. The pullets disappointed us greatly. We liked the second better than the first, the latter being small and not well pencilled to the throat. The second much resembled the Aquarium winner. The third conspicuous for the same defect as the first. The remainder a very average lot. **Light Cocks.**—Cup bird rather slight in frame but good in colour with the exception of tail; second stouter but not so pure in colour; third a good bird that might have been higher. **Cockerels.**—First (Mr. Haines), in good condition; second a fine specimen but deficient in markings and white in tail; fourth better in colour than the third. **Hens.**—First a grand hen; second also a good bird, but we fancied we discovered a little of the American in the shape of her body; third and fourth in their proper position. **Pullets.**—First a well-grown and prettily-marked pullet; second a good bird; third, the Crystal Palace winner we think, but fairly beaten at Birmingham.

Dorkings are on the whole a good lot, though hardly equal to the Crystal Palace Show. First in old Dark cocks is Mrs. Arkwright with such a bird as has often before appeared here from her yards; he is fine all round and in splendid condition, his comb a little over. Second is not a large bird, and is very white in tail and lobes; third darker. In cockerels the cup bird is good all round, not very striking but with good white feet; second a well-shaped cockerel with good comb but scurfy legs; third a poor bird with crooked toes, in colour a curious mixture of silver and brown; fourth moderately good, with white earlobes; fifth we liked though he has a crooked toe, his comb is fine. Several birds which we thought nearly the best in the class only received highly commendeds, or no notice, among them 403 (Drewry), 404 (White), and 421 (Cresswell) a very fine

bird. The first hen is very fine, but has a bad bumble foot; second has a fifth toe badly swollen, and a prick comb; third very large, of the old-fashioned lighter colour. The class for pullets contains many good birds; Mr. Burnell's cup winner is capital all round; Mrs. Arkwright's second about the largest in the class and highly matured; third a Palace winner, also first at Ipswich we think. Silver-Greys.—Mr. Burnell's Palace cup cock again scores a well-earned victory; second a nice cock with white feet. In cockerels we considered the first-prize one deserving of his honours; he is good in every point. Second was an inexplicable award; the bird is long-legged and stilty, with a lopping comb and several inches of white in his sickles; third a nice cockerel, but again too long on the leg. The cup hen is the bird which we remarked on at the Crystal Palace as our choice; second small and pale in colour. The first pullet is decidedly fine, of a very pale shade of grey; second good in colour and promising to be an immense hen. Whites are good classes; size and combs seem to improve much in this breed. The two winning cocks are both fine and very equal. In cockerels the Palace award has been reversed, and we think rightly; the cup cockerel is a great beauty, intensely white; second square and fine. Mr. Cresswell carries all before him in hens; the cup winner is immense, we hear she weighs 9 lbs.; second a fine square hen. Pullets are a good class and even; first large, a little heavy in comb; second white and good; among the highly commended is the Oxford cup bird.

Cochins.—*Buff Cocks*.—First a fine bird, even in colour, with the exception of the wing, which appeared to us a shade too light; second in some points we liked better than the first, but he was spoilt by the white feathers on his legs; third we considered an ugly-shaped bird, and preferred pen very highly commended (564), the Palace winner, which was claimed for £50, the largest bird in the class, but he was not in such good condition as at Sydenham, and the variations of his colour we fancied were more conspicuous. *Cockerels*.—First very hocked, and rather leggy; second a neat bird, but we found nothing in the class to cause special admiration. *Hens*.—First a grand-shaped lemon colour in beautiful condition; second also a very good bird; third very even in colour; fourth we thought a little tinged in hackle, but the light was decidedly anything but good. *Pullets*.—First all that could be desired, perfect in shape, beautiful in colour, well feathered in leg, and in superb condition; second a good bird; third capital in colour; fourth neat. The competition between third and fourth with several of the highly commended pens was very close, but we agree with the Judge in his selections. The Partridge cards were not issued until it was too dark to make an inspection. *Whites*.—*Cocks*.—First and second both beautiful birds, very pure in colour; first a trifle the larger, but each clear away from all others in the class. *Cockerels*.—First a fair bird but rather hocked; second neat; 820 showed a little white in the lobe, or it would doubtless have been in the prize list. *Hens*.—Good. *Pullets*.—First and second nice birds; third small; 854 a large bird, pure in colour, heavily feathered but hocked, we presume too heavily for the Judge. Black classes were fairly represented.

Malay Cocks.—First a fine bird; second larger, and showed a greater strength of limb. *Cockerels*.—First a neat bird, but we thought him deficient in limb; second a stouter bird, but not so well made. *Hens* a fair lot.

Crève-Cœur Cocks.—First and second good birds, the competition being extremely close. *Cockerels*.—Entries of only average quality. *Hens*.—We did not like the winner; she was bad in colour, and appeared to have only size to recommend her. The second we thought should have been first, and pen 1037 (unnoticed), second.

Houdan Cocks.—The winner was a large bird, but had an ugly one-sided comb. We preferred 1065 (unnoticed) to any pen in the class. *Cockerels*.—First a large bird, fair crest, but toes pointing in all directions. *Pullets*.—We thought the winners correctly selected.

Spanish Cocks.—Five birds only put in an appearance, but they were all good, and those not obtaining a prize were otherwise distinguished. The first had a splendid lobe and was well shown; second was not quite over his moult. We thought the occupant of pen 1136 possessed a better face. *Cockerels*.—Very inferior to the exhibition at the Palace. First had an open face and a good quality of white, but scarcely the length of lobe we expect in a first-class show. Second the Palace winner very much out of condition; we considered he should have given place to his near neighbour, the very highly commended pen. *Hens*.—First had a very heavy face of beautiful quality. 1155 good lobe, but out of condition; pen 1151 an average bird. With these exceptions they were a very poor lot. *Pullets*.—First a large-faced bird, with a good lobe, but a little out of condition; second coarse, rest very moderate.

Polish.—*Black Cock*.—First a fine crested bird in lovely condition; second had a large crest, but too open. *Cockerel*.—First well crested; second larger, but not evenly parted. *Hens*.—First a beautiful bird, with a very close crest; second good; 1354 a large crest, but not even. *Pullets*.—We think one of the

prizes should have been withheld. Only two birds made an appearance, one of them being blind with roup. Golden cocks were fair. *Hens*.—In this class we thought pen 1377 the best in colour and crest, but our attention was called to a growth of small feathers on the leg, which kept her out of the prize-list. The winner was a well-marked bird; the second appeared a little wry-tailed. *Pullets*.—Second best in colour, but deficient in crest. In Silver pullets the first-prize bird appeared up in the back.

Andalusians.—This variety was shown in pairs. The winners were well matched and in excellent trim. 1422 a capital pen, but out of condition.

Game.—*Black Red Cocks*.—First good and fine in all points, especially fine head and hard feather; second good colour and fine quality, hard condition; third hardly so long in limb, but deserving his place; 1468 fourth, fine head, rich colour; 1472 and 1473 empty. *Cockerels* only a poor class, and far inferior to the usual Birmingham standard. First-and-cup good in quality of feather and colour, but very flat-shinned; second rusty-coloured but neat style; third rusty fluff but stylish, the Alexandra winner; fourth flat-shinned but tall and stylish, cut too close underneath throat; fifth a tall and reachy bird, good in colour and head. The principal failing in Black Red hens and pullets was the prevalence of dark eyes, which are too common. In hens all three winners have dark eyes, but are tall and good-shaped hens. Mr. Dutton's highly commended is good in colour and has rich red eyes, and style enough to merit a higher place. In pullets the cup winner is an extra smart one, but rather foxy; second is the Palace winner; third and fourth two very pretty coloured and neat pullets; and fifth a tall and pretty bird of good colour. This was one of the best classes in the Game section. The old Brown Red cocks were a good lot, first being a winner here last year, but not one of the modern lemon shade, still he is a handsome and stylish bird; second is the true lemon Brown Red, and won at the Palace; third too long in hackles and very dark in breast; fourth a very similar bird to second. Mr. Watson's highly commended is also a very good one. *Cockerels*.—First-and-cup, also the champion cup, is an extra good one in fine bloom, rich lemon, beautifully laced breast, splendid tail; a trifle more size would improve him. Second and third similar in colour and fine quality; the third a little too feathery; fourth good in upper colour, but rather light underneath and too heavily laced, good in head and style; fifth a good stylish bird of quite another stamp, being reddish, but tall and reachy, rather flat-shinned. The Brown Red hens and pullets were shown in so dark a place that criticism is almost impossible. The winners all appeared good in style, but some of them too dark copper-coloured in hackles, especially the cup and third hens and some of the highly commended pullets. *Old Duckwing Cocks*.—Cup to the bird which took second at the Palace; second a good and strong-framed bird with rich orange back; third a nice tight bird with full orange back, hardly so limby as winners. The cockerels were good; first and second as at Palace; third good shoulders, but not fine enough in head. Harley's highly commended (1659) is a better bird by far than third. In old hens Harley wins easily, a big strapping bird with immense reach; second very good, but smaller; third carries her tail too high. *Duckwing Pullets*.—First-and-cup the Palace winner, still unbeaten; second was also good and stylish, but dark-eyed; third a very pretty pullet, too long in body. The Blacks are falling off, only two cocks and two cockerels; all good, however, except the second old cock, which was very round-backed, quite enough to have thrown him. The winning hens and pullets were all smart and good, but darker in face and eyes than used to be considered correct; in fact the red-eyed and faced ones seem to be lost. *Old Pile Cocks*.—First the Palace winner; second too high in tail; 1746 good but small. The first cockerel is good and stout; second stylish, but bad-coloured. Pile hens and pullets both good in the winning birds and well judged.

Bantams.—*Sebrights*.—Winners a neatly laced pair of Silvers, cock a little faded; second Silvers also, cock not well marked, the hen we thought the best in the class; third Gold, very pale in lacing; 1822 were a well matched pair, and both clearly marked, but the hen was out of condition. *Whites*.—Five entries, nearly all good. First very pure in colour; second also nice in colour, smarter than the first, but blue-legged. Blacks with the exception of the winners were poor. The Game awards were not out at the time of our leaving, but we noticed a very handsome pen of Mr. Brownlee's, that we expect will be foremost among the Piles. Any other colour.—Only two entries. Black feather-legged.—We liked the second best, the first being very red in saddle.

Ducks.—The heaviest White Aylesburys weigh 21 lbs. 10 ozs. the drake and Duck; the heaviest Rouens are 23 lbs. 8 ozs. the drake and Duck.

Geese.—The heaviest White Goose and gander of Messrs. J. K. & R. R. Fowler weigh 48 lbs. 12 ozs., the heaviest Grey Goose and gander 49 lbs.

Turkeys.—The heaviest Turkey cock 35 lbs. 7 ozs., the heaviest

Turkey cock hatched in 1877 weighs 28 lbs., the heaviest of Turkey hens 20 lbs. 6 ozs. each, and the heaviest Turkey hens hatched in the present year 17 lbs. 3 ozs. each.

PIGEONS.

As regards the general arrangements of the Pigeon department of this great annual gathering we have nothing new to add. The same extraordinary and inconvenient up-and-down manner in which the pens are numbered is still carried out, and consequently the same disagreeable amount of dodging backwards and forwards and hunting up and down to follow the numbers consecutively has still to be undergone. How heartily we wished before we had done the Council would try to make some improvement in this respect. One excellent arrangement, however, we were very pleased to meet with again, and we know that the exhibitors generally will share with us in the feeling, in finding the birds again placed under the able and assiduous care of Mr. J. W. Edge as Superintendent of this department. He never seems tired of attending to their requirements, and wherever one looks cleanliness and comfort is everywhere perceptible. We know that the great length of time which birds have to be away from home at this Show keeps hundreds away which would otherwise be there, and we know also that before a superintendent was specially appointed many have suffered severely by sending their birds; but we can now say that every care and attention which an old and experienced fancier can possibly bestow upon them is bestowed, and beyond the mere length of time the birds are away from home we think exhibitors who would otherwise like to exhibit there have now nothing to fear in sending to Bingley Hall. Several alterations have been made this year in the schedule. The classes for Short-faced Balds and Beards are again amalgamated, as the change did not come up to the anticipations of the Committee. An additional prize is given to the Tumbler of Any other variety, and the Trumpeters are divided into two classes, Mottled and Any other colour. The silver cup hitherto given to Runts, Archangels, and Fantails is now competed for by the two former breeds only, and an extra one is given to the Fantails, and a third prize is also given to Fantails of any other colour. An additional cup is given to Jacobins, and that hitherto competed for by Jacobins, Turbits, and Owls is now devoted to the two latter kinds. An extra silver cup is given to the Dragoons and also to the Antwerps, and a selling class is opened for a pair of any variety of Pigeon with prizes of £2 and £1, the price of each pen not to exceed £2. The entries this year number 629 pens against 670 last year, and in many of the classes we fancied the quality was not quite up to the usual standard.

Carriers, as usual, head the list, and here especially we noticed, as in fact we did at the Palace, a great falling-off in the quality of the specimens, and our opinion in this respect in regard to both Shows was coincided in by several well-known Carrier breeders. We hope that this decline is not generally perceptible throughout the lofts of the country; but we fear that the innumerable shows which are now and have been held during the last year or two, and the high prices which are offered to breeders for their best specimens, are now beginning to tell sad tales. A good young bird now, soon after he is reared, is hurried into the show pen, and any experienced breeder knows that constant showing and successful breeding are incompatible. But now to the Show. Old Black cocks mustered nine, but beyond the prize birds there was nothing in the class worthy of notice. First was, we think, the second-prize Palace winner, a fine bird with good properties generally, but a little wedge-shaped in head, which rather detracted from his other good points; the second bird, belonging to the same owner, was better in beak wattle and narrower in skull, but the birds were no doubt rightly placed. Black hens only mustered six, Mr. Fulton taking first and the cup and second, but in our opinion the two birds should have changed places, for beyond having good head points we saw nothing in the cup hen to admire, while the second hen was not only good in head but in all her other properties as well. We thought her a charming bird. We also admired 2086 (Maynard), and although not in the competition with her heavier competitors, still a very handsome bird with youth on her side. Dun cocks had only four entries. Fulton first with an old and well-known winner, but which beyond his beak wattle is not a bird to be admired. 2092 (Maynard) second, though not so heavy very much more to our taste, a little short in face, but a good stout beak, capital colour, and for style a Carrier all over. Dun hens were a very good class indeed, most of the birds being large-bodied birds, stout in bill, and with plenty of wattle and style. Mr. Fulton, however, was an easy win with a very fine specimen which took our fancy immensely. Mr. Maynard's second, capital in her points, though not so well developed as her more successful rival, and grand in colour. Mr. Fulton's highly commended specimen will also bear examination. Altogether we considered the Dun hens the best class of the lot. Carriers any other colour were a fair class, mostly Blues, first being Mr. Stretch's Palace cup-winner, and no doubt in his right place here. 2106 (Waterhouse) an excellent bird, but out of condition. Second was a White, and as a White

Carrier a very good bird indeed. Young Black cocks numbered a dozen entries, first being the Palace winner, and both here and there we heard many expressions of doubt as to his age, and at Oxford, where he was shown, we understand he was passed over with several others as being over age. Whether such is the case or not we of course cannot say, but he certainly is as well as one or two others in the class, remarkably well developed for a bird of this year. We, however, liked 2117 (Billeyald), highly commended, a good, long-faced, stout-billed, stylish bird, capital in colour, plenty of distance between his eye and wattle, both of which were good, and a genuine young one; and 2120 (Mrs. Hallam) also highly commended, also a fine large bird, remarkably narrow in skull, and an excellent beaked bird, as well as any in the class. In young Carriers any other colour, first and the cup a young Dun hen, undoubtedly remarkably stylish, long in face, straight in beak, and stout for a hen, capital in eye—in fact, we thought altogether a beautiful bird, but withal a peculiar something about the shape of the back of the head we did not quite like, but no doubt, considering all things, she was in her right place. Second another Dun hen apparently, stylish, but rather fine. Rest of the class very poor.

Pouters taken as a whole were a very good show indeed, although rather small in the entries in the respective classes the class for any other coloured birds, which with one exception were all Black, being undoubtedly the best of the lot. The Whites were also exceedingly good. In Red or Yellow cocks first was a Red, very good in colour but sadly out of condition; he, however, carries his flights much too low—quite under his tail. No doubt when he was in condition he was a good bird, but he looks past it now. Second also was a Red, not so good in colour, but a fine cropped bird, his chief fault being too wide in the limbs. 2134 (Pratt), highly commended, we should have put higher up, being a tall stately bird with the most Pouter properties of any bird in the class, but being rather badly bishoped on one side no doubt threw him out. 2133 (Fulton), a Yellow, rather thick in girth and short of toe-feathering. Red or Yellow Hens.—First a Yellow, a very stylish bird, but short of marking on the crop, but a good first for all that. Second also a Yellow, the second bird at the Palace. 2138 (Fulton), another good Yellow. Blue Cocks.—First a good cropped bird with good limbs, and in fact a good bird throughout, but slightly bishoped on one side. We could, however, see little to choose between this bird and the one belonging to the same exhibitor in pen 2146, both highly commended and both very stylish birds. The second-prize bird was very good in his marking but rather too dark in colour. Blue Hens.—First rather thick in girth and droops her secondary feathers too much. We should have preferred the second-prize in her stead, being better in marking and a more stylish bird throughout. White Cocks.—First a very neat bird indeed, and we think the Palace winner. The second-prize we consider should not have been in the list, either pen 2152 or 2160 (both Pratt) being far superior birds, the former being the bird which was second at the Palace Show in the old class, although it is a young bird of this season. 2161 (Lang), highly commended, rather a taking bird and upstanding, but short of crop and limbs placed too wide apart on the body, although they are near enough at the hocks. White Hens.—First a very neat bird but short of limb, the Oxford cup-winner, we believe, and third at the Palace. Second also a good bird, but, like the former one, deficient in limb but a nice crop. 2166 (Fulton), highly commended, the hen which won so much twelve months ago, but now we think a very ugly bird and carries herself like a Duck. 2167 (Pratt), a very neat stylish hen in splendid condition; and 2169 (same owner), about the largest hen in the class, but somewhat out of condition. 2170 (Lang), a bird of this season, which promises to make a very good one. Any other colour cocks were all Blacks. First (Fulton) a well-known bird, but to our mind wanting in style. Second the best marked bird in the class and good in colour. 2174 (Fulton), highly commended, another good bird, but nearly swallow-throated. 2171 (Pratt), highly commended, the old champion Black now getting rather old for show. Any other colour Hens.—First-and-cup a stylish Black, excellent in colour and marking, and limb also fairly covered. Second also Black, a very long-limbed stylish hen, which we should prefer to the winner, although not quite so good in colour or marking. 2178, highly commended, Fulton's well-known Black hen which won the cup at the Palace, now altogether out of condition. To our mind she is sadly too thick in girth, and limbs too wide apart. In fact we cannot possibly see anything in her which in our opinion justifies her former achievements in the show pen. 2176 (Fulton), a very stylish mealy hen and very well marked.

Almond Tumblers were only a small class of some half-dozen birds, but there was nothing to approach two such birds as were shown by Mrs. Hallam. First and the cup was the charming bird, which was unanimously selected by all the critics as the bird which should have won the cup at the Palace. Second a rather larger bird, but beautiful in colour and spangling. Mr. Yardley also showed a charming little hen, a well-known winner; and a capital headed and well-coloured cock, which we

have more than once seen at the head of the prize-list, but now not quite in his usual trim. Short-faced Tumblers were a capital class of ten, first being a beautiful-headed Yellow Agate cock (Weston) and a well-known prizewinner, a little lighter in colour than when we saw him last, but a Short-faced Tumbler all over. Second was a Black Mottle, but we thought there were several other birds in the class which might well have filled its place. The Judge marked this as a very good class, but it would be interesting to know for what reasons. Balds and Beards had only three entries, first being a pretty Blue Beard and second a Red Baldhead. The other bird was a capital Blue Baldhead, rather low cut, but a splendid-headed little fellow.

Flying Tumblers.—Muffed Tumblers (Rosewing).—The cup went to a very handsome Red; second also Red Rosewing. Mottled.—Not much to say of this class; first a Black, apparently a hen. Muffed Tumblers, any other variety.—A most extraordinary class, containing a great variety of beautiful birds. About the best class of the kind we remember to have seen, and it is a pity the Judge had not more prizes to award here, which he could easily have done. First a handsome Red Badge; second a Blue Saddle, very heavily feathered; 2230 (very highly commended) was a pure white bird, pearl-eyed, very handsome, and heavily feathered, which took our fancy immensely. In class 163 (Tumblers, any other variety) the first and second prizes went to Mr. Yardley's well-known and handsome Yellow Mottles, the hen, a specially handsome bird, running the cup-winner very hard for his honour.

Barbs were not well represented, the cup going to a Red, rather large, but with excellent beak and eye properties. The young birds competed with the old for the cup, and two good specimens were first and second respectively. Many persons, however, preferred 2270 for first, but he was dark in bill, and doubts were expressed as to his age.

Trumpeters only brought five entries, among them, perhaps, the best White ever exhibited, the property of Mr. Shaw. The celebrated Mottle carried off the cup.

Jacobins.—Reds and Yellows competed together, and some excellent birds were exhibited in the class; the cup going to one of the long-feathered birds lately introduced. Second a small and charming Yellow, but which does not carry its hood so close. Any other colour.—A Black is first with an ugly flaw in hood, a very nice little Black second, and a good White third.

English Owls only brought three entries, the falling-off in this variety being something remarkable. First a Blue, which we did not like, and which we think should have changed places with the second-prize bird, a beautiful Silver in splendid condition and colour, but rather lacking in rose, otherwise a wonderful bird. Foreign are not a fine class. The two winners are a White and a Black; both good.

Dragoons were well-filled classes throughout, the Blue cocks being about the best in quality; and the Blue, Red or Yellow, and Silver cocks were well judged, but in Dragons any other colour we should unhesitatingly have placed the third-prize first. He is the old champion Grizzle; and we should have placed 2453, not noticed, but the best Blue in the class, second; and third to 2488, another Blue Chequer. In hens, any colour, the Oxford and Palace cup hen won the cup here, second being a Blue; both rightly placed. Dragons hatched in 1877 were a fair class, but we consider the first-prize bird was a mistake, its next neighbour, pen 2487 (Wood), being an easy win.

Antwerps were also large and well-filled classes, the Silver Duns especially so, but badly judged. If any of the three winners were entitled to a position the third-prize bird was the best. In Blues we thought 2505 (Hubbard), highly commended, and 2508 (Yardley), unnoticed, should have been first and second. Red Chequers.—Here we thought pen 2528 better than the third-prize bird. First was the old Red Chequer champion, which also won the cup as the best Antwerp cock. The Blue Chequers were well judged. Silver Dun or Blue hens.—We thought 2556 (Bradley), a Silver Dun, the best hen in the class; 2567 (Ludlow) was undoubtedly second, as placed; but we should have placed 2563 (Copeman) third. Red or Blue Chequer hens.—No fault to find here. Silver Dun or Blues, hatched in 1877.—The first-prize bird won by his colour only, being on a small scale throughout. Decidedly the best pen in the class was 2597 (Bradley), highly commended; while 2595 (Mapplebeck), highly commended, and 2596 (Slater), unnoticed, should have been amongst the winners. Young Antwerps, Red or Blue Chequer, hatched in 1877, were fairly judged. Speaking generally of the Antwerp judging we may say that the Judge has, in the majority of cases, entirely departed from the Birmingham standard and gone for small pretty birds, colour and condition having carried him away.

Runts are estimated rather in the scales than by the eye; the Silvers at present outweigh the Blues. Archangels are a good class. We like Mr. Harrison Weir's judging of them. He looks to other points besides a black tail, though we wish birds adorned (?) with aid of the grease pot were excluded. First is a very dark bird; third a good sheeny copper, a bargain at 30s.

Fantails.—White.—All here goes to flat round tails, while

style and motion seem disregarded. First has a large and splendid tail, though the feathers are very thinly set; the tail of third is particularly flat. Among the unnoticed are some capital birds of the Scotch style, among them the cup hen at the Alexandra and Crystal Palaces. The two winning Blues did not show to advantage when we saw them, for they carried their tails over their backs too much.

Nuns.—All the winners were Blacks. The first the only one that pleased us in flights. **Swallows.**—First a capital Black, second a Yellow, third a Red. To the latter we much preferred its owner's Black, 2339. **Magpies.**—An extra good Black is cup-and-first, a rich Red second, and a very high-cut Yellow third.

Turbits.—Red or Yellow are a very good class, most of the birds being remarkable for smallness and neatness. First-and-cup the little Yellow hen with marvellous frill, which scores her third victory at Birmingham at two and a half years old; second a Red, very dull in colour, but good in head and frill; third a small down-faced Yellow. In the other class a coarse foul-thighed Blue Shell is first, and a well known tiny Blue hen second. Among the unnoticed are a remarkable White (Fulton) and a remarkable Black (Cresswell).

The Variety class, as it always is at Birmingham, was a most attractive and interesting section of the display, and we think it was this year exceptionally so. Duplicate second and third prizes were awarded, but the duplicate first we are sorry to see this year is discontinued. First was the Satinette which was second at Southport; one second a Blue Domino, and the other second a Blondinette; the two thirds were a plain-headed Silverette and a clean-legged Blondinette, grand in head, and a beautiful bird in crest, colour, and markings. Among the many other birds in the class calling for notice was 2643 (Bott), a beautiful Satinette, which ought to have been noticed; and 2633, highly commended (Ludlow), a Blue Vizor, the bird which won at Southport, and which is, we believe, the winner of four silver cups among his other many achievements; but he was no doubt thrown out here on account of the soiled state of his flights and tail through the wires of the pens having been cleaned with grease, a great mistake, which has left a lasting mark for this year at any rate on many beautiful birds.

POULTRY.

BRAHMA POOTRAS.—Dark.—Cocks.—Cup and 2, Horace Lingwood. 3, R. Hargreaves. 4, E. Pritchard. *vhc.* F. Bennett. *Cockerels.*—Cup and 2, Horace Lingwood. 3, L. C. C. R. Norris. 4, C. H. Tindal. 5, R. P. Percival. *Hens.*—Cup, Rev. J. D. Peake. 2, E. Pritchard. 3, Mrs. F. S. Arkwright. 4, Horace Lingwood. *vhc.* T. P. Ye. *Pullets.*—Cup, 2, and 4, R. P. Percival. 3, Rev. T. C. Peake. 5, E. Kendrick, jun. *Light.*—Cocks.—Cup, E. L. Mills. 2, Lady Gwydyr. 3, H. C. White. 4, W. T. Tedd. *vhc.* R. E. Horsall. *Cockerels.*—Cup and 2, Haines. 3, M. Leno. 4 and 5, R. P. Percival. *vhc.* Horace Lingwood. *Hens.*—Cup and 2, H. C. White. 3, Horace Lingwood. 4, M. Hall. *vhc.* R. P. Percival. *Pullets.*—Cup, Horace Lingwood. 2, J. & W. Birch. 3, G. W. Peter. 4, M. Leno. 5, P. Haines. *Selling Classes.*—*Light or Dark.*—Cocks.—1, E. Kendrick, jun. 2, C. Morris. 3, W. McMath. *Hens or Pullets.*—1, Rev. J. D. Peake. 2, Mrs. H. Foulkes. 3, E. Kendrick, jun. *vhc.* W. T. Tedd. 3, Lucas, Rev. T. C. Peake.

COCHIN-CHINA.—Cinnamon and Buff.—Cocks.—Cup and 2, G. H. Procter. 3, J. E. Taylor. *vhc.* C. H. Tindal. *Cockerels.*—Cup and 2, G. H. Procter. 3, T. P. Ye. 4, C. Sidgwick. 5, W. A. Burnell. *vhc.* H. Tomlinson. 2, R. P. Percival. 3, F. A. Procter. 4, A. B. Smith. *vhc.* C. Bloodworth, Mrs. Allopp. F. Robertson, J. Bloodworth, J. Walker, W. A. Bindley. *Pullets.*—Cup, G. H. Procter. 2 and 3, W. P. Rylands. 4, J. Nelson. 5, W. A. Burnell. *vhc.* J. Nelson. A. J. E. Swindell. W. P. Ryland, Rev. G. F. Hodson. *Brown and Partridge-feathered.*—Cocks.—Cup, F. Robertson. 2, R. P. Percival. 3, J. Hendrie. *Cockerels.*—1, 2, and 3, R. J. Wood. *vhc.* H. C. White. J. K. and R. R. Fowler. E. Tudman. *Hens.*—1, E. Tudman. 2, R. J. Wood. 3, R. P. Percival. *vhc.* R. Jones. *Pullets.*—Cup, R. J. Wood. 2, T. Stretch. 3, E. Tudman. *vhc.* H. Tomlinson, J. E. Taylor. *White.*—Cocks.—Cup, A. Darby. 2, R. P. Percival. 3, Lady Gwydyr. *Cockerels.*—1, C. H. Tindal. 2 and *vhc.* R. Chase. 3, A. Darby. *Hens.*—Cup, A. Darby. 2, H. Tomlinson. 3, R. Chase. *vhc.* Lady Gwydyr. C. H. Tindal, Rev. A. W. Warde, Mrs. H. Shutt, H. Tomlinson. *Pullets.*—1, G. B. C. Breeze. 2, H. Tomlinson. 3, R. P. Percival. *vhc.* J. K. and R. R. Fowler. *Black.*—Cocks.—1, Lady Gwydyr. 2, Mrs. F. J. Cockerell. *Cockerels.*—1 and *vhc.* A. Darby. 3, E. Kendrick, jun. *Hens.*—Cup, A. Darby. 2, O. E. Cresswell. 3, A. Darby. N. Cook. *Pullets.*—1, Lady Gwydyr. 2, R. B. Wood. *Selling Classes.*—Cocks.—1 and 2, H. Tomlinson. 3, J. E. Taylor. *Hens or Pullets.*—1, H. Yardley. 2, W. A. Burnell. 3, H. C. White.

MALAYS.—Cocks.—Cup and 2, E. Stanley. *Cockerels.*—1, G. Burnell. 2, T. B. Lowe. *Hens.*—1, G. Burnell. 2, E. Stanley. *Pullets.*—1, T. Eaves. 2, G. Burnell.

CREVE-CEURS.—Cocks.—Cup, R. B. Wood. 2, I. Ward. *Cockerels.*—1, I. Ward. 2, H. P. Garde. *Hens.*—1, H. Stephens. 2, I. Ward. *Pullets.*—1, H. Stephens.

HOUDANS.—Cocks.—Cup, Mrs. D. Lane. 2, T. J. Levett. *Cockerels.*—1, I. Ward. 2, W. O. Quibell. 3, Mrs. Vallance. *Hens.*—1, C. Morris. 2, Mrs. Vallance. *Pullets.*—1 and 2, W. O. Quibell. 3, Mrs. Vallance.

SPANISH.—Cocks.—Cup and 2, E. Jones. *vhc.* D. M. Mills. *Cockerels.*—1, E. Jones. 2, J. J. Powell. *vhc.* J. Aldridge. *Hens.*—Cup, E. Jones. 2, J. Aldridge. *Pullets.*—1, J. J. Powell. 2, J. Aldridge. *vhc.* Mrs. Allopp.

HABUCHES.—Black.—Cocks.—1, Miss E. Wilson. 2, J. Long. *vhc.* H. Beldon. *Cockerels.*—Cup, R. L. Garnett. 2, J. Long. *Hens.*—1, J. E. Smith. 2, H. A. Clark. *Pullets.*—1, Rev. W. Serjeantson. 2, Robinson & Jagger. *Golden-pencilled.*—Cocks.—Cup, G. Ashpole. 2, H. Pickles. *Cockerels.*—1, J. Stuttard. 2, H. Pickles. *Hens.*—1, H. Pickles. 2, H. Beldon. *Pullets.*—1, H. Pickles. 2, J. Stuttard. *Silver-pencilled.*—Cocks.—1, J. Stuttard. 2, H. Pickles. *Cup, Robinson & Jagger.* 3, H. Beldon. *Hens.*—1, H. Pickles. 2, J. Stuttard. *Pullets.*—1, H. Beldon. 2, J. Stuttard. *Silverspangled.*—Cocks.—Cup, S. Fielding. 2, H. Beldon. *Cockerels.*—1, J. Fielding. 2, J. Stuttard. *Hens.*—1, H. Beldon. 2, Robinson & Jagger. *vhc.* Miss E. Browne, Ashton & Booth.

is no brood in a hive, as the young queen has not then begun to lay. In taking honey from the hive then nothing is destroyed but the combs. The honey is obtained, generally speaking, without the destruction of a cell of brood. The bees driven into an empty hive commence to build comb at once, and the young queen soon begins to lay. In fine weather combs are rapidly built and as rapidly filled with brood in the hive of the turn-out swarm; but to interfere with it while it is in a state of prosperity in every sense—breeding bees, building combs, and storing honey would be well-nigh ruinous. Very little honey would be obtained, all the brood of the hive would be destroyed, and the poor bees would have to commence housekeeping and house-furnishing at a later and more unfavourable season. Your correspondent will do well to abandon the idea of having three harvests of honey annually, or of driving bees from their hives twice in a season after swarming. In fine seasons a second harvest of honey may be obtained from first and early swarms by treating them like old stocks—viz., by taking swarms (called virgin swarms) from them as soon as they are ready, leaving bees enough in them to hatch the brood; then, three weeks later, turning all the bees into empty hives. But I do not take virgin swarms, neither do I recommend others to take them. I find it more profitable to super or cke swarm hives than it is to take virgin swarms from them. It should be borne in mind that in filling hives with combs bees have to consume a good deal of honey.

Bees that are fed-up with syrup and have their hives pretty well filled with combs in September make the best of stocks and the earliest swarms on the following season.—A. PETTIGREW.]

MR. PETTIGREW'S LARGE HIVES.

I THINK "B. & W." misunderstands Mr. Pettigrew's argument as regards large hives being equally good for poor as well as rich honey districts. I have always understood his argument to be as follows:—The egg-laying powers of the queen are almost unlimited. A small hive restricts those powers, and consequently affords only a small population. A large hive gives full scope to those powers, and consequently supplies a large population, and a large population will gather more honey in any district than a small one. But Mr. Pettigrew further teaches that large hives require large swarms, or, failing these, two or three swarms in the first instance to stock them; and, as heat is required for a large early population as well as room for the queen's laying power, he strengthens his large hives by the addition of condemned stocks in the autumn. Have those who have failed with large hives thus fully carried out Mr. Pettigrew's system? I do not follow his system, but have with advantage adopted much of his teaching, which is applicable to bar-frame as well as other hives. The question, and it is an important one, is simply this: What is the best size of bar-frames and shape of hives to secure the largest early population, and what is the best system for their successful management?—O. B.

P.S.—It would greatly help to the settlement of this question if some bar-framists would give a fair trial to a really large frame.

THE SWANS ON THE THAMES.—The report of Mr. E. C. Robins, Swan warden of the Dyers' Company for the current year, states that an interview was had with the Lord Chamberlain with regard to the objections of some of the residents and anglers on the banks of the Thames that the Swans ate fish and spawn; and it was satisfactorily proved by the analysis of Mr. F. Buckland that the outcry was much exaggerated. The birds do not eat the fish or spawn by preference, but only incidentally while feeding upon the vegetable matters with which the river abounds. However, the Crown has decided not to increase the number of Swans, but to maintain the total of grown birds and cygnets at about 400, those of the Dyers' Company at sixty-five, and the Vintners' at forty-five, which was the average of the last seven years.—(City Press.)

OUR LETTER BOX.

DOMINIQUE FOWLS (C.).—The Dominique is like a Rose-combed Cuckoo Dorking with bright yellow legs and lacking the fifth toe. They are not more profitable layers than the breeds you name. Their eggs are of fair full size. They are hardy and do well in confinement, but we know no respect in which they are better than those breeds we already have. Their yellow legs are a disadvantage if they are intended for market; they make a considerable difference in their value.

DORKING AND BRAHMA CROSS (Idem).—A Silver-Grey Dorking cock will do as well to cross with Brahma hens as an ordinary Grey. Nothing is, however, gained by it, and as a good Silver-Grey is worth certainly twice as much as a common Grey, it would seem, as you seek profit, more conducive to that end to sell the expensive bird and buy a cheaper. You must, however, recollect a Silver-Grey must not have a speck of white on the breast or a shade of white in the tail. If it has it forfeits all claim to the class.

HOUDANS (Idem).—It is very desirable that the cock and pullet in a pen should resemble each other as closely as possible. If the birds, although of different shades, are equal in other points, there can be no hesitation. Put a dark hen with a dark cock, and vice versa. But it is well to say the point is not so material with one hen as with two. Two hens or pullets put with a

cock must match. A dark and a light one put in the same pen would have little chance of success. Considerable latitude may be and is allowed for the difference in shade between cock and hen provided the points that prove purity of breed are undeniable. Nevertheless we repeat, if all other points are equal it will be advisable to match cock and pullet as closely as you can in every particular.

LICE ON FOWLS (Ledbury).—Dusting them with Sooth snuff under the feathers will destroy the vermin.

MIS-SHAPEN EGGS (E. W. B.).—We should think from your fowls one after the other laying the same mis-shapen eggs that some of the materials necessary for the formation of the shell were wanting. We say some of them, because unless the shell were partly formed there would be no shape at all; but the egg, as is frequently the case, would be quite soft to the touch. Lime is a necessity, and it is most profitably given by throwing down in their haunts a barrowload of bricklayers' rubbish, old plaster, ceilings, &c. This not only supplies them with what they want, but it also amuses them, causing them to turn over, scratch, and search for the necessary ingredients. Ground cats (such as they have in Sussex), they also form shells, as they contain chalk. Where all these appliances exist and yet the eggs are faulty in shell, there is some mistake in feeding, or the birds are out of health, and the secretions are at fault. The food should be barley meal or ground oats slaked with water morning and evening; whole corn, barley, or maize, varied at times with kitchen scraps, for the midday meal. If they are in confinement they must be supplied with good-sized sods of growing grass. We believe this will be found a remedy.

FOWLS DECLINING (W. D. H.).—We believe there is something your fowls eat which disagrees with them. There is but little of it, and they have not all access to it, or all would suffer alike. Or it may be your food is wrong, and those that are weak or sickly become victims. What is the flooring of the houses? If wood, stone, or brick that will in a great measure account for it. Even in the healthiest yards there is sickness at this time of year and some die, but it appears you have been suffering for months. At this season of the year the fowls should be fed three times per day. There is little for them to find except when there is thrashing going on and the barn door is open. The change of weather, the damp, cold, and the long nights are trying to them. We advise you to feed as we have named in the preceding answer. Let your house have an earthen floor and we believe the deaths will cease.

METEOROLOGICAL OBSERVATIONS.

CAMPDEN SQUARE, LONDON.

Lat. 51° 32' 0" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.						IN THE DAY.					
	Baromet. at 9 A.M. and Sea Level.	Hygromet- er.		Direction of Wind.	Temp. of Soil 1 foot.	Shade Tem- perature.	Radiation Temperature.		Rain.			
		Dry.	Wet.				Max.	Min.				
1877.	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	deg.	In.	
Nov.	29.278	46.6	38.7	W.	43.0	50.3	37.2	70.0	31.6	0.200		
Dec.	28.832	45.3	44.3	S.S.E.	42.8	49.1	40.0	68.1	36.0	0.050		
We. 28	29.278	46.6	38.7	W.	42.1	46.5	39.1	67.1	33.0	0.050		
Th. 29	29.278	46.6	38.7	S.S.E.	41.9	47.1	40.0	67.8	33.3	0.017		
Fr. 30	29.278	46.6	38.7	S.W.	41.3	46.7	39.4	66.7	32.8	0.010		
Sat. 1	29.278	46.6	38.7	N.E.	42.0	46.7	39.4	66.7	32.8	0.010		
Mo. 2	29.278	46.6	38.7	S.E.	42.0	46.7	39.4	66.7	32.8	0.010		
Tu. 3	29.278	46.6	38.7	N.	42.1	46.7	39.4	66.7	32.8	0.010		
Means	29.503	42.4	41.7		42.3	47.8	39.3	63.7	34.0	0.589		

REMARKS.

- 28th.—Bright sunny day throughout; colder; wind and rain commenced at 11 p.m.; gusty during the night.
29th.—Heavy rain and windy in morning; fine and bright afternoon; starlight evening, but rain at 11.15 p.m.
30th.—Fine morning; rainy and dull afternoon; clear at night.
1st.—Dark, foggy, rainy morning; sunshine at intervals after 11 a.m., but a damp day; starlight evening.
2nd.—Rather fine morning, bright sun at times, but on the whole a raw damp day.
3rd.—Dark dull day, with rain at intervals.
4th.—Dull day, but no rain till 5 p.m.; showery afterwards.
A dull damp week, with very little range of temperature.—G. J. SYMONS.

COVENT GARDEN MARKET.—DECEMBER 5.

Our market still remains quiet, and though the supply of first-class goods is getting very short prices do not vary.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples.....	1	2 to 5	Oranges.....	100	5 0 to 10 0
Figs.....	dozen	0 0 0	Peaches.....	doz.	0 0 0
Fiberis.....	lb.	0 0 8	Pears, kitchen..	dozen	1 0 0
Cobs.....	lb.	0 0 8	dessert.....	dozen	2 0 0
Grapes, hothouse..	lb.	1 6 0	Pine Apples.....	lb.	1 6 5
Lemons.....	100	0 10 0	Plums.....	sieve	0 0 0
Melons.....	each	1 6 4	Walnuts.....	bushel	5 0 8

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes.....	dozen	2 0 to 4 0	Mushrooms.....	pottle	1 6 2 0
Beans, Kidney..	bushel	0 0 0	Mustard & Cress	punnet	0 2 0 4
Beet, Red.....	dozen	1 6 0	Onions.....	bushel	0 0 0
Broccoli.....	bundle	0 9 1 6	pickling.....	quart	0 4 0 0
Brussels Sprouts	1 sieve	2 6 0 0	Parsley..... doz.	bunches	2 0 0 0
Cabbages.....	dozen	1 0 2 0	Parsnips.....	dozen	0 0 0 0
Carrots.....	bunch	0 4 0 8	Peas.....	quart	0 6 1 0
Capsicums.....	100	1 6 2 0	Potatoes.....	bushel	3 6 6 0
Cauliflowers.....	dozen	2 0 4 0	Kidney.....	bushel	5 0 7 0
Celery.....	dozen	1 6 2 0	Radishes.. doz.	bunches	1 0 1 6
Coleworts doz.	bunches	2 0 4 0	Rhubarb.....	bundle	0 6 1 0
Cucumbers.....	each	0 9 1 3	Salsify.....	bundle	0 9 1 0
Endive.....	dozen	1 0 2 0	Scorzonera.....	bundle	1 0 0 0
Fennel.....	bunch	0 3 0 0	Seakale.....	basket	2 0 2 6
Garlic.....	lb.	0 6 0 0	Shallots.....	lb.	0 3 0 8
Herbs.....	bunch	0 2 0 0	Spinach.....	bushel	2 6 4 0
Lettuce.....	dozen	1 0 2 0	Turnips.....	bunch	0 3 0 4
Leeks.....	bunch	0 4 0 0	Veg. Marrows..	each	0 2 0 6

WEEKLY CALENDAR.

Day of Month		Day of Week	DECEMBER 18—19, 1877.			Average Temperature near London.		Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
						Day.	Night.	Mean.	h. m.	h. m.	h. m.	h. m.	Days.	
13	Th		Royal Society at 8.30 p.m.			47.5	36.5	40.2	8 0	3 49	0 13	Morn.	9	347
14	F		Prince Albert died, 1861.			46.9	34.8	40.6	8 1	3 49	0 24	1 13	10	348
15	S					47.0	33.6	40.3	8 2	3 49	0 36	2 14	11	349
16	SUN		3 SUNDAY IN ADVENT.			46.5	32.9	39.7	8 3	3 49	0 52	3 28	12	350
17	M					45.9	34.0	39.9	8 4	3 49	1 13	4 47	13	351
18	Tu					45.8	33.7	39.7	8 4	3 49	1 43	6 7	14	352
19	W		Society of Arts at 8 p.m.			45.4	32.5	39.5	8 5	3 50	2 26	7 24	15	353

From observations taken near London during forty-three years, the average day temperature of the week is 45.3°; and its night temperature 38.2°.

HARDY AZALEAS.



GREENHOUSE Azaleas as represented by the beautiful varieties of *A. indica* are esteemed indispensable in every conservatory where spring flowers of high quality are appreciated. The value of these handsome flowers is admitted by the extent—almost universality—of their culture; nor is this preference to be wondered at, for whether we regard the massive grandeur of the richly-coloured varieties—glowing pyramids, brilliant globes or dazzling standards—or the soft and delicate tints of the neutral colours—pillars of beauty, chaste yet gay, they command admiration wherever they are seen in the fresh bright garb of perfect health. No wonder, I say, can be expressed that these beautiful plants are so popular, but there is room for surprise that another branch of this floriferous family is so systematically neglected—I mean the beautiful varieties of Azaleas *pontica* and *mollis*. I hesitate not to say—and I am certain all who are acquainted with the best varieties of the sections named will give acquiescence—that these charming hardy shrubs are of at least equal importance as the greenhouse varieties, the fame of which is so firmly established.

Many are the lovers of flowers who possess gardens but not greenhouses, and to those the Indian Azaleas are prohibited plants; but no one who has the means of growing a Laurel, Rhododendron, Dahlia, or Rose need be denied the enjoyment of the beautiful hardy Azaleas referred to. Neither are they exclusively adapted for outdoor display. They are charming as seen in beds or borders, as all must admit who have seen them in good condition; but they are equally striking when the flowers expand under glass. Each head of flowers of some of the *pontica* varieties and their crosses is set in a fringe of the freshest of fresh green foliage, which enhances its beauty. These charmingly “encircled heads” of attractive flowers are not only extremely beautiful, but some of them are as sweet as Honeysuckles, and nearly all of them emit a delicate perfume. They are thus conservatory flowers of the first order of merit, and are equally valuable for cutting for room and vase decoration. Their colours are extremely varied, yet are distinct from those of most other plants flowering at the same period.

The effect produced by the varieties of *A. mollis* is of a different character—more bold and more imposing. So floriferous are these plants that they appear when at their best as being all flowers. So dense are their masses of colour that it is necessary to have green-foliaged plants to afford them relief—to set them off. They are gorgeous but not gaudy, for even the yellow varieties possess a peculiar softness of tint which subdues but does not impair their brightness.

Both the *pontica* and *mollis* varieties are forcing plants of undoubted merit, and should be employed in decoration wherever such shrubs as Rhododendrons, Kalmias, Lilacs, Roses, &c., are grown for conservatory embellishment in

early spring. These deciduous Azaleas force as well, but perhaps not quite so quickly, as any of the shrubs named, and with which they are quite worthy of being associated. Well-budded plants obtained from the nurseries at the present time and firmly potted in light soil and brought on gradually in a vinery or forcing house will in due time give a reward commensurate with the attention that has been bestowed on them.

For forcing purposes the plants may be obtained from any nursery at home or abroad, and may be potted and placed in gentle heat forthwith, and they will flower satisfactorily within a few months from being potted. If judiciously treated after having flowered and their buds are set and foliage kept healthy throughout the summer they will flower still earlier the second season. I have had plants both from English and Belgian nurseries which have arrived in such good condition that they have flowered equally as well as have others which have been potted from the reserve garden at home. Thus they are tractable plants, easily managed, and as certain in producing good results as any plants can be that are accelerated in growth, and made to flower some time before their natural season.

For shrubbery and general garden decoration they are admirably adapted. When associated with Rhododendrons they enhance the effect of those gorgeous shrubs by the distinct colours imparted, and which show to great advantage amidst the rich foliage of those queenly evergreens. Azaleas of the *pontica* and *mollis* types are, too, for anything that I know to the contrary, as hardy as Rhododendrons; at any rate I conceive they are sufficiently hardy to pass uninjured through the ordinary winters of any district in Great Britain and Ireland.

These valuable hardy flowering shrubs and excellent forcing plants cannot be considered without associating with them the memory of a famous horticulturist—the late Mr. Louis Van Houtte. It is to his enterprise, sagacity, and the skill retained in the celebrated establishment at Ghent that we are chiefly indebted for the finest varieties that have been distributed. In a recent issue of the Journal reference was made to an English Memorial Committee who are in possession of funds enabling them to offer prizes at the next Ghent Quinquennial Exhibition in honour of the man to whose skill and energy the horticultural world is so greatly indebted. That is a graceful tribute to real worth; but a greater memorial than even that of the remarkable man whom all delight to honour is found in the fine varieties of hardy Azaleas which he originated and which will remain as bright records of his fame—mementos of a man whose name, like that of the genus of plants with which it is so intimately associated, can never die.

Those who have not seen the thousands—the acres—of these plants in the grounds at Gendbrugge can form no conception of the magnitude of the trade in them—trade which extends to all the nations of the civilised world. I have seen that great collection at different seasons of the year—in early summer when the plants have been flowering, presenting a sea of bloom, and in the autumn when

they have been taken up, "mossed," and dispatched to the different kingdoms of Europe and to America, and it is not easy to determine which sight was the more imposing; but either affords sufficient evidence of the great importance of the plants in question.

Yet these Azaleas are not seen everywhere. They are still comparatively scarce in the gardens of this country, because in the great majority of them they are not represented at all. From many, very many conservatories, too, Ghent Azaleas are absent, a circumstance that can only be explained by assuming that the finer varieties of them are not known. Neither have the hardy Azaleas been extensively exhibited at spring and early summer shows. We read occasionally that "Messrs. Rollisson sent a fine group of *Azalea mollis*;" or that "Messrs. Veitch contributed a splendid collection of *Rhododendrons*, interspersed with effective plants of *Azaleas pontica* and *mollis* in variety." The last-named firm, which are always well abreast of the times, have recently obtained a first-class certificate for a new variety of much promise named *Couleur de Paille*. It belongs to the *mollis* section, and is very rich in colour, as if partaking of the nature of the old and valuable Chinese *Azalea sinensis*, which is so effective for decorative purposes, and even for exhibition. Since the ice is fairly broken it is more than probable that other new varieties will be raised or introduced by English growers, which will do much to popularise this useful family of hardy flowering shrubs.

In a future communication I will refer to some new and old varieties.—*NOMAD*.

THE APPLE AND THE ROSE ELECTIONS.

As one interested in the Apple and its manifold varieties I desire to thank Mr. Killick for the very useful and intelligible form he has given us in the election of some of the choicest sorts. For many years I have been anxious for something of the kind being done, and must admit being much disappointed at the Rose being more than once honoured with the distinction of its varied forms being paraded to the world while the Apple remained neglected. It may be all very well to call the Rose the queen of flowers, and I suppose it would sound very much like floricultural treason to dispute the assertion; but have not other florists' flowers held a very high position at the court of the Goddess of Beauty, and have not the flowers fallen into neglect and disregard? and who is there that can say the Rose will not follow them? Much as the latter is and has been admired, I do not think that the most enthusiastic of its admirers have gone so far in giving fabulous prices for their pets as did their grandfathers for their favourite Tulips and some other kinds of flowers fashionable in their day; and when we take into consideration the much greater abundance of wealth of the present day to what there was formerly, the honour of riding a hobby very hard in the cause of floral display belongs more to a past generation than to the present. But I will not pursue this matter further, but rather let us take the case of the Apple and see what claims it has on our attention.

I do not think I am speaking beyond the bounds of general acquiescence when I pronounce it the most important fruit cultivated in this country, and certainly of the most importance, not the least of its claims being its antiquity, for we are told our Saxon ancestors had their orchards, their cider, and other luxuries furnished by this fruit. What improvements have taken place in the culture and management of the Apple are but very imperfectly handed down to us, and how much altered is the Apple of to-day from the fruit of Saxon times it is difficult to conjecture; and it is not at all complimentary to writers on gardening matters to find the merits of Roses so freely discussed while Apples remain comparatively neglected. Nurserymen's lists, although some of them are highly creditable, do not furnish all the information needed. Cannot fruit-growers, therefore, give us their own opinions of the respective varieties? The growers of Roses dilate on the beauty of their *Maréchal Niels*, their *Alfred Colomb*, and the other thousand and one names, and why cannot the merits of fruit be discussed with the same freedom? An Apple may and often does present a certain beauty of form which may to its admirers equal that of any Rose, while on the score of utility the comparison is of course all on one side.

The Apple which has attained about the highest position in this immediate neighbourhood as a good-sized fruit and early-bearing variety has been adverted to by Mr. Killick, and is

best known in the locality as Stone's Apple, the original tree growing on the farm of a gentleman of that name, the name of the farm being Loddington. I see it has also been called Loddington Seedling; but as Mr. Killick has so well described its general character I need add but little, except my mite of recommendation to its worth as an early fruit, of its good bearing qualities as a tree, and its general good appearance as an Apple, added to which it keeps better than most Apples that come into use in August and September, for I see it was one in a collection of twelve sent by Mr. Skinner, an extensive grower in the neighbourhood, and whose collection took the first prize at a recent exhibition.

Now, an Apple that is one of the favourites at market in August and still in good condition in November is in itself a sufficient recommendation, but its good bearing qualities are its most important claims to notice, and so good is it in that respect that it is seldom one meets with a large tree of it, although, perhaps, no single variety has been planted so extensively in the neighbourhood of Maidstone, and its popularity does not seem in the least diminished. Its most important opponent as a fruit to send to market in August and September is Lord Suffield, but by many it is considered superior to the last-named popular kind; and I expect it would be difficult to find specimens of Lord Suffield to exhibit with other kinds at the end of November. It has, however, its admirers.

I have often urged the claims of the Apple as being quite as important as that of the Rose for consideration through the medium of a gardening periodical, as local varieties are not often known beyond the bounds of the district where they originated. Whether this one originated as Mr. Killick suggests is uncertain. I have frequently seen the original tree, as I lived within a quarter of a mile of it for more than twenty years. It is impossible to say whether it has been grafted or not, but it has been pretty widely distributed during the last few years. One of its names, given to it I believe by a London fruit salesman, was Mapson's Seedling; and so high a character did Mapson's Seedling obtain, that there is a story told in the neighbourhood of an extensive fruit-grower having heard of its productiveness procured some grafts, and gave instructions for his Stone's Apple and others to be cut down and grafted with the kind, when after the second year it was found to be identically the same variety that he had cut down—viz., Stone's Apple! Such things I believe have occurred with other fruits; but when the result is such a good fruit as the one in question it is all very well. As a worthy friend of mine said many years ago when new Grapes "so called" turned out Black Hamburgs, there was no harm done.

A variety of Apple which seems to be an especial favourite with Mr. Killick, and is also much esteemed by many others, is the Cellini. Mr. Killick will, I am sure, forgive my differing from him in reference to this fruit; for although it is undoubtedly a fine-looking Apple, it is too tender to carry to a distance well, and consequently when the baskets of it are opened at market the produce does not look so well as when it left home. This defect may perhaps have no weight with many of your readers, but it is important to the growers for market. I simply mention this, not with any view of disparaging a really good bearing and pretty fruit, but in fairness the good and bad qualities of each ought to be impartially recorded. At a future time I may possibly advert to the merits or demerits of other varieties of Apples, and I should be very pleased if others would do the same, for it is only by records of experience that we can determine the sorts best suited for different purposes and different districts. I do not want less of Rose lore, which so many enjoy, but more of hardy fruit experience recording, which cannot fail to afford both pleasure and instruction.—*J. ROBSON*.

PICEA NOBILIS SEEDLINGS.

On clearing a border on which I have a very good and tall *Picea nobilis* my gardener found three seedlings from it, evidently of one, two, and three years' growth, grown under some Holly trees which stand close by. I am well acquainted with growing seed of this tree, as I now have seedlings 6 feet high, but to do this they have to be sown and carefully preserved under cover until fit to move.

I am given to understand also that the seed never ripens properly in this climate, but my experience appears to point to the opposite. The parent tree itself gives every year large numbers of cones which have to be cut away, or their weight

might break the branches if allowed to remain. Have any of your correspondents met with a similar occurrence—viz., trees growing from seed without any protection?—FRED. WALTON, *St. Cuthbert's, Albrighton.*

NOTES ABOUT GLADIOLI.

HITHERTO we have not seen the Gladioli grown to that extent which on its merits it deserves to be. The great destruction to the corms by disease has necessitated their being sold at a price which has put them beyond the reach of many who would gladly grow them. We are told about and read of the Tulip mania which once existed, when the bulbs were purchased at fabulous prices. Fortunately things are now changed, and a common-sense price is all the public will go to. Our endeavours towards making the Gladioli still more generally the popular flower it deserves to be renders it incumbent that this disease, which so devastatingly attacks it, ought to command our closest observance. Once secure for the Gladioli a more hardy constitution, then for this noble flower we might safely predict a bright future. One day, or rather one year, we are delighted with magnificent spikes and of the finest form and colour; the time comes round again, and it may be that we may reap again, but more than probable for our much-prized beauty we look and look in vain. It has gone without so much as leaving a small offset behind.

I have frequently thought that hybridisers were running too much after flowers of high quality, and that constitution very apparently was almost if not altogether ignored. We all know how hardy is the old *Brenchleyensis*, and also that fine soft sweet flower of much better class, old *Penelope*. Were I to commence to raise seedlings, this latter crossed with others of higher colour and of the best constitution I could procure would be those I would breed from. Regarding *Penelope*, whoever yet saw a well-grown spike disgrace a stand? It shows a greater breadth of bloom than have its compeers, and I have seen ladies pick it out admiringly when staged with others at fifty times its cost. When we secure varieties of equally good quality also as hardy, then nurserymen will be able to supply bulbs at half the present average price, and the public will materially increase their purchases.

In the way of finding a remedy I ask, Where does the disease first commence its attack? Many will say in the corm. My decided opinion is that the diseased bulb is only the effect of the disease, which I contend first attacks and then destroys all or many of the roots. The first outward sign is the foliage turning to a sickly yellow. Now, as soon as you like after first noticing this, let the plant be taken up and it will be found that the points of the roots are also sickly and yellow, and soft and mushy. Certainly we have the diseased roots before we have the diseased corm, or at least I have always found it so, and for an amateur I have grown a large collection. Of grubs the wireworm is occasionally a pest by its eating through the heart of the spike just above the corm, but perhaps I suffered less this way than some by using liberally nitrate of soda.

Regarding suitable soil, a rather stiff loam I think suits them best, and after experimenting I at last used only new cow manure, both dug-in and for mulching during summer. Of varieties my practice was to grow a few of each of the best-named sorts and then to grow largely of purchased seedlings. The French seedlings were no good. I may or may not be correct in my surmising, but I have many times thought that the stock of named varieties was largely made up from seedlings; and with child so like parent, and hundreds of parents with no children raised by the ordinary way of offsets, there is all the more empty bags to select from into which a corm of an ordinary good flower can be placed, and for which a fair price can be obtained. Have you never noticed from half a dozen corms having flowers much alike but not the same? With the Messrs. Kelway's seedlings at 20s. a hundred I was much better pleased. I had from them many very good exhibition flowers. The corms and spikes generally were of good size, and with many judges size goes a great way. I daresay I have had thousands of corms raised by Mr. Banks of Deal, and without in the least colouring from many of them, but flowers of finer or better quality I never saw. A few years ago I exhibited rather largely (not these last three years), and once had the pleasure, at the International Show held at Manchester, of drawing the attention of "D., Deal," to my stand of thirty-six spikes nearly all cut from Mr. Banks's seedlings, and which very nearly contained every flower I could command. My turn was second, Messrs.

Kelway first, and a Scotch firm third. Mr. Banks, it may be well to note to save so worthy a gentleman trouble, sells none of his corms retail; he disposes of them to the trade. Those wishing to plant Gladioli in their borders, I strongly recommend them, save *Brenchleyensis*, not to buy cheap named sorts, but to buy seedlings from any of our English raisers; and those wishing in a cheap way to grow for exhibition I recommend them to follow the plan I followed.

Just another thing I would draw attention to. All flowers look best when exhibited on green; over and above some fresh green foliage of their own behind each spike, let them stand deep amidst *Asparagus* foliage stuck amongst the water in the tubes.—J. WITHERSPOON, *Red Rose Vineries, Chester-le-Street.*

PROTECTING CHERRIES.

Few who have had experience among Cherries have not at times been much concerned about how to protect them from birds. This accomplished, other difficulties come within the grasp of the experienced cultivator. Explicit and practical as "A NORTHERN GARDENER" made the espalier system in the *Journal* of 22nd ult., yet while many may have their arrangements so complete, with others the system detailed may be almost impossible; and excellent as the plan is they cannot carry it out.

In my own experience I have seen Cherries kept from the pets (for so they are here), no difficulty being in the way, only a scarcity of old herring nets. These nets can be procured from fishermen when they have done with them for a nominal price, their width being from 12 to 14 feet. I once had under my care a number of trees planted against a brick wall about 12 feet high, which were closely netted with some of the above-described nets as soon as the fruit began colouring. The nets were looped on tacks at the top, ends, and bottom. When we wanted to gather a dish we had only to remove a few loops along the bottom, go under the net, and pick away without the least inconvenience. I have seen the trees so loaded with fruit that they would have charmed the heart of any gardener who had employers who were fond of Cherries. The variety was *May Duke*.

On the other hand standards are not so easily protected from blackbirds, thrushes, and jackdaws, none of which will take any affront except shooting at them with intent. An orchardist close by here has a few very large Cherry trees, as large indeed as forest trees; just as the fruit commences colouring he makes it a point to have a watch on about 3 A.M. In the open side of the approach to the trees he has a scone erected, so as the watch can advance without being observed by the birds. Gun in hand the first enemy seen is fired at, and if not detained is so frightened is not likely to return for some time without much caution. Provision is made for the cautious birds by placing a bare branch on the top of one of the trees near the Cherries, so as the timid birds may alight first on the bare or naked branch, where it will have the best view from, and while it is looking about it the man in the scone can fire with impunity as far as the Cherries are concerned. This plan may at first sight appear a difficult one, still in the long run it is better to give a little attention when the fruit is ripening than having the dissatisfaction of seeing a crop destroyed after a whole year's care and attention.—B. G., *Co. Down.*

THE OLD ROSES.

Yes; as Mr. Witherspoon says let us have some Moss Roses. I would not say a word to damage the reputation of the beautiful Roses that we now hear and see so much of; they are worthy of all the praises lavished upon them, but by all means let us have some Moss Roses. It is to be regretted that those charming old favourites of the past have fallen into comparative obscurity, and are fast becoming "things of the past." The bards of all nations have sung their praises with all the glowing eloquence that is lavished on the present race of new Roses. I maintain that in point of beauty none can surpass our glorious old Moss Roses. What language can do justice to the plant designated the "daughter of heaven," the "glory of spring," and the "ornament of the earth?" No other hardy flower gives such beauty combined with such fragrance as the Rose.

One of the choicest of Roses (old though it be) is the *Provins*, *Rosa provincialis*, said by some to be from France, while others say Holland is its native home; others again assert that

it belongs to the vicinity of Damascus. It is also known as the Cabbage Rose. We have no certainty as to when we came in possession of it. The old Damask Rose, *Rosa damascena*, appears to be almost lost to cultivation, and yet in bud we have not a more desirable Rose. The York-and-Lancaster Rose has been referred to; it is sometimes met with, and may be restored to favour again. No Rose in the bud is more beautiful. We used to have another striped Rose in *Perle des Panachées*, also the Old Village Maid and New Village Maid, but they appear to have fallen into disuse, why I am not able to say. But to my mind the Rose of Roses is *Rosa muscosa*. There is some doubt as to its origin. Some think that it is an offspring of the Provins Rose, others attribute it to *Rosa centifolia*.

Why the Moss Roses find so little favour I am not able to say. They are not difficult to cultivate, and I think they should have a class to themselves at exhibitions. They are often seen in all their glory by the cottage homes of England.

They are best increased by layers, but they may be increased by budding on other stocks, yet they like their own roots best. They often send up strong suckers. These with care make good plants. The white varieties are a little delicate, but with care they can be successfully cultivated. There are several kinds of Moss Roses that are worthy the notice of cultivators. One of the very choicest is the Crested Provins, then we have *Rouge de Luxembourg*, *Malvina*, *Baronne de la Flèche*, *Comtesse de Murinais*, *Alice Leroy*, *Moss Lanei*, *Baronne de Wassenaeër*, and *Capt. Ingram*, with others that might be named, and which ought to be more freely cultivated.—A. LOVER OF OLD ROSES.

ECONOMY IN HEATING GREENHOUSES.

PATENT STOVES v. FLUE.

"RESPICE FINEM" (page 416) does not seem to like my saying that the cost of heating his small house was, as compared to mine, excessive. First of all he tells us that my advocating the flue is, to say the least, retrospective, and had I done so I could not do otherwise than admit the force of his argument; but the fact is I never did advocate the flue as the best means for heating. Were I to advocate any particular apparatus I should decidedly advocate that which I think every person possessing a knowledge of floriculture and its requirements for attaining success would do—namely, a boiler and hot-water pipes. "RESPICE FINEM" appears all at once to have discarded the patent stove, and in preference thereto has adopted one of his own design. Why does he not give us the particulars thereof, that others may derive some benefit from his knowledge and experience?

But to answer his queries. The question of growing any particular plant, such as *Gardenias*, *Gloxinias*, *Stephanotis*, &c., was not raised by me. All I did was to criticise his expenditure for heating a house not larger than 10 feet long by 6 wide to the extent of 50°. My house is one-third larger; it is sheltered only from the east wind. The temperature is the same; and although the plants are not the same they are such as require for their well-being a constant temperature of 50°. But has anyone ever heard of an average temperature (a term used by me in my former paper) of 50° for horticultural purposes meaning 20° at one time and 80° at another? What plants does "RESPICE FINEM" think would exist under such conditions? To my mind such an average temperature means keep as near to it as you possibly can; neither let your thermometer register many degrees below nor above it.

For many plants in a greenhouse it is exceedingly injudicious to raise the temperature above 50° during winter. If it is plants will grow weakly, and as a consequence they cannot rank amongst the number of well-grown plants, which after all is the first consideration whatever plant it may be.

Let me in conclusion tell "RESPICE FINEM" that my greenhouse is not one simply for the preservation of *Geraniums* over the winter.—L. HAKEMAN.

CAMELLIA FIMBRIATA.

I FORWARD to your notice a flowering twig of *Camellia fimbriata*. It is from a bush plant, about 6 feet in diameter, growing in a pot. You may observe that the tendency of pot culture when the plants are in good order is to give plenty of flowers. The plants do not grow so strong as those planted out, and the foliage is not so large either, consequently the flowers show rather better. It might be said that the principle that governs the flowering of the *Camellia* well is just the

same that is required for the perfection in blossom of an Apple tree, or indeed any other plant; without the wood is well ripened the same perfection is not attained. The plant from which I cut this spray is certainly not so thickly flowered all over the plant; still the buds, opening and to open, are plentiful.—R. M. A.

[The spray, although not more than 6 inches in length, contains four expanded flowers and as many unopened buds; the foliage is also glossy and healthy. We never saw a better example of culture of this beautiful *Camellia*.—EDS.]

HOW TO PLANT AND COOK POTATOES.

In the first place the land requires drainage, in the second place trenching 18 inches deep, and in December or January quicklime should be applied at the rate of 1 ton to every 10 poles; or gas lime, which will answer equally well, at the rate of 1 ton for every 10 poles of ground. When the land is dressed all over with the lime the next thing is to ridge up the ground 2 feet apart and to let the ridges remain so until the 1st of March, when the Potato planting may be commenced if dry; if not, wait for another week or two, beginning with the earlier sorts, such as the Ashleaf and Early Rose, and finishing with the late sorts, such as the Jersey Blue: that will be about the 1st of April. I am afraid it would take up too much of your valuable space to mention the different manures I have tried for the last thirty years, but I have found where the lime was put at the rate of 1 ton for every 10 poles of ground the Potatoes were good and free from disease. If anyone should doubt this let them try 1 pole with 2 cwt. of gas lime. Storing Potatoes is best done out of doors in pits with a good sprinkling of common sand, and then they can be covered up with straw and earth to the thickness of a foot or more if the weather should be severe.

For cooking Potatoes have plenty of water, salt, and a good fire, and whenever the first crack is seen pour the water off and steam them till they are ready, and they will turn out like "balls of flower."—J. G., *Lynwood*.

CANDYTUFTS.

AMONGST the many kinds of hardy plants suitable for the decoration of flower gardens in spring and summer there are few that will surpass the genus *Iberis*. The majority of the species are perennial, but some are annuals, and a few are biennial, are found in the mountainous districts of the south of Europe, and have a dwarf, shrubby, spreading habit, seldom rising in height more than 18 inches, and usually have white flowers. The most suitable position in the garden for them is a rockery, but for the mixed flower border or for an edging to beds they are also very effective.

One of the best known kinds is *I. saxatilis* (synonymous, I believe, with *corifolia*), a plant unequalled for an open rockery, and when in bloom it forms a complete mass of white; but to do it justice it should have a good soil, and if large boulders of stone are placed about it, it will spread over them, and in a few years will make a handsome plant, associating well with *Arabis alpina*, *Aubrietia purpurea*, *Alyssum saxatile*, *Saxifragas*, *Sedums*, and other alpine plants.

Iberis Garrethiana, *I. sempervirens*, *I. gibraltarica*, *I. Tenoreana* are all fine species, and are equally good (though old-fashioned) as pot plants for indoor decoration. They strike readily from cuttings taken off after flowering, inserted in sandy soil, and placed in a close frame till rooted; they may then be divided and planted in rows outdoors, and the year after may be planted where they are wanted, there to remain, as the less they are disturbed about the roots afterwards the better. The *Iberis* may also be raised either from seed sown as soon as it is well ripened, or in the spring, placing the seed pans in a close frame, and gradually hardening the young plants till June, when they may be planted out, but be taken care of till well established and sufficiently strong to take care of themselves.

The annual kinds should find a place in every garden, however small; for what is more gay when in bloom than white and crimson Candytuft? and useful for cutting as well. They may be had in bloom from June till November by successional sowings. If sown the latter end of August and protected a little from hard frost the bloom will be a little earlier than spring-sown seed; but the beginning of April is quite early enough to sow in the majority of gardens, for if the winter is very cold and wet the majority of the young plants perish.

The seed should be scattered thinly in well-pulverised soil, covering the seed slightly, and when the young plants are about an inch in height thinning them to 4 or 5 inches apart will strengthen and greatly improve those that are left; sowing annuals thick and leaving them like so much Mustard and Cress only causes poor growth and short duration of bloom. If another sowing is made the early part of June in a damp



Fig. 85.—*Iberis corifolia*.

and more shaded aspect a good supply of bloom may be had till November. The white and purple Rocket Candytuft are good and cheap kinds; and *C. Dunnettii* is a fine crimson variety with a good robust habit.—A. HARDING.

[The *Iberis* figured above is the true *corifolia*, but there is another often confounded with it from a similarity of names called *corraefolia*, that has much larger flowers and broader leaves, which is probably the sort referred to by Mr. Harding. The preferable name for *corraefolia*, which is a garden hybrid, as its synonyme *coriacea*, by using which much confusion will be prevented.—EDS.]

NATIONAL ROSE SOCIETY.

ANNUAL GENERAL MEETING, DECEMBER 6TH.

In accordance with one of the rules of this Society that the annual Meeting be held on the first Thursday in December, about twenty members assembled in the comfortable room of the Horticultural Club on the afternoon of the above date, amongst whom, besides the Hon. Secretaries—Rev. H. H. Dombrain and E. Mawley, Esq.—we noticed the Rev. C. H. Bulmer, Dr. Hogg; Messrs. Jowitt, Scott, McIntosh, Cant, W. Paul, G. Paul, Turner, Cutbush, Mayo, Dean, Hawtrej, and Corp. Mr. Jowitt, the winner of the first challenge for the fifty-guinea challenge cup offered by Messrs. Cranston & Co., was unanimously elected Chairman of the Meeting. Letters had been received from some distant members, including the President, Rev. Canon Hole, expressing regret at not being able to attend.

The minutes of the last meeting having been read, a letter was read from Rev. J. B. M. Camm tendering his resignation as additional Hon. Secretary, he being unable to continue in the position to which he had been recently elected; and Mr. G. Paul moved and Mr. Bulmer seconded a motion that Mr. Camm's resignation be accepted, which was carried *nem. con.* After a desultory conversation it was not considered necessary to appoint an additional Secretary.

The next subject brought before the meeting was the balance sheet. At a previous meeting Mr. McIntosh had kindly undertaken to audit the accounts, but as he had not received the balance sheet until Tuesday evening and had not had an opportunity of examining the vouchers he was necessarily not able

to discharge the duty he undertook in time for the meeting. The accounts, however, had been audited and signed by a professional accountant. The income of the year amounted to £417 12s. 4d., and the expenditure was returned as £417 8s. 2d. After discussing some of the items of expenditure, all of which were considered necessary, it was suggested that further discussion on the subject be deferred until the vouchers had been examined; whereupon Mr. W. Paul proposed and Mr. Mayo seconded a resolution that the balance sheet be examined and submitted to an adjourned meeting, which was passed without a dissentient.

The important question of "the future," and especially as to where the next National Rose Show should be held, led to prolonged discussion. The Hon. Secretary had been in communication with the authorities of the Agricultural Hall, the Floral Hall, the Westminster Aquarium, and the Crystal Palace. The Agricultural Hall could be had for one day for £50, or free by taking the Company into partnership, sharing the expenses and profits. The Floral Hall could be had for the same time at a rent of £100, a suggestion being made that if the Show was held at the time of an operatic performance an arrangement might be made for the audience visiting the Show. The Manager of the Crystal Palace offered the Society a hundred guineas and to provide all conveniences for the Show to be held there; and a similar offer was made by the Westminster Aquarium Company. After considering the nature of the several propositions it was eventually decided on the motion of Mr. Cant, seconded by Mr. Turner, that the offer of the Crystal Palace Company be accepted, the Secretary of the National Rose Society being directed to negotiate with the Palace authorities to obtain a day in the last week of June, if possible other than Saturday, Mr. Bulmer having strenuously urged the inconvenience of that day to clergymen, many of whom are ardent patrons of Rose shows. If a Saturday is insisted on by the Manager of the Crystal Palace, then June 29th to be the day of the Show. The chief, indeed almost the only objection to the Palace, was the inconvenience of trains from the west of England, which do not arrive in time for the exhibitors from that important district to stage their collections by the usual hour of judging; and on this account Mr. G. Paul suggested that an extra hour should be allowed in the morning for staging, so that Roses from the west, always so formidable in competition, should be fully represented. The whole matter was eventually left in the hands of the Secretary, who being in possession of the views of the meeting was desired to make the best arrangements possible for a one-day show at the Crystal Palace. In the event of the National Rose Show being held as proposed it is understood that there will not be a Rose show in addition at the Crystal Palace, thus there will be one metropolitan show the less, which was considered by most or all of the exhibitors present to be an advantage rather than otherwise, the general impression of the meeting being that there are "too many shows."

The question of a provincial show received the long and earnest consideration of the meeting. A strong and general wish prevailed to afford the northern growers an opportunity of exhibiting. It having been ascertained that Roses were included in the schedule of the Royal Horticultural Society's Show which will open at Preston on July 9th, and continue for five days, it was the general opinion of the meeting that the National Rose Show should be held prior to the Preston date. A strong feeling prevailed against the "clashing" of shows, and, as Mr. G. Paul said, "both interest and loyalty must prevent them running against that of the Royal Horticultural Society."

Attention was directed to the suitability of several places, but Manchester appeared to meet with by far the most favour as the place for holding the first provincial Show of the National Rose Society. Cheltenham, Bath, and Birmingham were also mentioned, and one or the other of them would probably have been more strongly urged as the place of meeting had not the feeling prevailed that they are beyond the radius of the northern growers. Manchester having been decided upon, the question arose and was seriously discussed as to whether the Show should be held in association with, or independent of, a local horticultural society. Mr. Bulmer was strongly disposed to go "on their own hook," and his views were promptly endorsed by Mr. Mayo. Other members were also inclined to make the "venture," but the majority deemed it advisable to adopt a safer policy for the first time and to gather experience. The "own hook" experience of the past had evidently a sobering effect on the meeting, and its advocates did not gain enthusiastic support. It was eventually decided, on the motion of Mr. G. Paul, seconded by Mr. Cant, that the Secretary communicate with the Council of the Manchester Botanical and Horticultural Society with a view to negotiating for the Show to be held under their auspices on the same principle as the Crystal Palace Show; the Manchester Show to be held for one day during the first week in July. It was further decided that in the event of arrangements not being made for holding the Show at Manchester, that Cheltenham "be tried," and should that fail also the provincial Show for 1878 to be abandoned.

The last question on the agenda paper was the appointment of the Committee. After a short discussion it was unanimously agreed that the Committee continue as at present constituted with the addition thereto of the names of Mr. Burnaby Atkins, Mr. Jowitt, Mr. Arkwright, and Messrs. Keynes, Prince, and Corp. It was admitted that while many of the members were necessarily unable to attend the meetings in London they were still able and willing to do the Society good service in the respective districts. The Secretary suggested that in addition to the large General Committee a smaller Executive Committee be appointed to transact the routine business of the Society. The suggestion was promptly agreed to, and the following amateurs and nurserymen were duly appointed—namely, Rev. Alan Cheales, Capt. Christy, Mr. Jowitt, Mr. Scott, and Mr. Hawtry, and Messrs. Cant, Cutbush, W. Paul, G. Paul, C. Turner, and the two Secretaries, this Committee to carry out all practical details of management, and to summon a General Committee meeting when they deem it desirable to do so. At a previous meeting Dr. Hogg and Rev. J. T. Boscawen were appointed Vice-Presidents of the Society, but on the minute being submitted for ratification Dr. Hogg pointed out that in consequence of his many and urgent duties he felt it incumbent not to accept any more official positions, however much his sympathies were with the objects with which his name might be proposed. He further, on reference to the rules, observed that only one Vice-President was requisite, “and where,” he added, “can you find a better than Mr. Boscawen?” “Nowhere” was the response, and that gentleman’s nomination was unanimously ratified, Rev. Canon Hole, of course, remaining the President. A proposition having been made of the desirability of appointing a Treasurer, Mr. Scott, on being requested to do so, consented to accept the position, expressing his willingness in reply to a question to “do any amount of work within his power to further the interests of the Society;” Mr. Scott thereupon was duly appointed.

Mr. Cant towards the close of the meeting expressed some sound observations on the necessity of suggesting some rules of guidance for judging; a matter so important ought not, he thought, to be left to the various fancies of different men whose tastes on some points varied so extremely. Mr. Cant’s remarks met with general acquiescence, and it was freely admitted that “something should be done in the matter”—a hint for the Executive Committee. Mr. Mayo also directed attention to the importance of some suggestions that had appeared in the *Journal of Horticulture* on the advisability of offering prizes for Roses grown within a short radius from London; also on the importance of publishing the names of the judges previous to the show. Several members concurred in the remarks of Mr. Mayo—another hint to the “executive.” Mr. George Paul then gave a broad hint to the members by purchasing a copy of the “Rosarians’ Year Book,” for the cost of which Mr. Dombrain, not the Society, is responsible. The “hint” and several copies were at once “taken.”

A cordial vote of thanks to the Chairman terminated a harmonious and united meeting.

BRITISH PLANTS WORTHY OF CULTIVATION IN GARDENS.

WILDLINGS that adorn the dewy meads, deck the moorland in beauty, spangle the swamp, and adorn the water are ever welcome; each has some peculiar beauty, every geological strata, each change of landscape has its special flowers; some are curious, others quaint, all acceptable. The wildlings of Nature combine ornament with use, each plant having some peculiar adaptation. Unlimited luxury is found in the beholding of our native gems which are attractive in spring, summer, and autumn by their blossoms, foliage, and fruit. The study of plants in Nature not only affords pleasure, but enlarges the ideas, expands the mind. Cultivated plants contribute in a higher degree to the enjoyment and comfort of man, inasmuch as they are made to afford to the fullest extent the necessities as well as luxuries of civilised life.

Wild flowers, I mean native plants, have to a greater or lesser extent been cultivated from time immemorial. Some in their original, but a greater number in improved form, are at present found in gardens. A majority of cultivated plants are, however, exotic—many very beautiful, but some it must be said pale into insignificance before our native beauties. We ransack every clime of its floral treasures; while beautiful plants growing at our doors are passed by—neglected. Some of them are common, and a few are rare; therefore the cultivator of native plants may have equal cause to be proud of his collection as one whose plants are principally exotic. The lover of the curious, choice, and rare has his wants catered for in hardy native plants as well as in tender, in exotics, which I will briefly endeavour to show.

Orchises.—Some of the loveliest of all the plants that adorn our fields and woods are found in the Orchid family, adding in no small degree to the “motley meadows glory and delight.”

Orchis mascula (Male Orchis or Early Purple Orchis) is found in moist meadows and open or only partially shaded spots in woods, in rich moist loam of medium texture, its leaves spotted black, its flowers in May bright pinkish purple, lip spotted. The flowers are deeper coloured in the open than in shade, the higher-coloured flowers not unfrequently fragrant. It attains to a height of 9 to 12 inches. This forces well, and is very handsome as a pot plant, quite charming among Hyacinths.

Orchis morio (Meadow Orchid) is profusely distributed in damp meadows in medium-textured loam. Its flowers in May form a lax spike 8 or 9 inches high, the flowers being purple, white, and green, lip marked with dark spots. This also forces readily, and is a superb pot plant. It is the commonest of our native Orchises, but is nevertheless very handsome.

Orchis maculata (Spotted Orchis) has pale purple or flesh-coloured flowers spotted or streaked with darker tint or lilac purple in June, attaining to a height of 18 inches, is one of the finest, thriving in partially-shaded moist ground in rather strong loam, but prefers moist healthy pastures. Does well in pots.

Orchis latifolia (Marsh Orchis) is found in moist meadows, having broad spotted leaves and pinkish flowers, purple-crimson spotted, in June 12 to 18 inches high. The finest plants I have seen were in dampish partially-shaded ground facing east, soil 1 to 2 inches of vegetable debris overlying strong loam. It is fine for pots.

Orchis pyramidalis (Pyramidal Orchis) is found in meadows in heavy loam overlying chalk, but I have found it in heavy loam upon the liae formation. Its fine spikes of rosy purple seen in the grass shine like amethysts set in emerald. It flowers in June and July, and is very handsome.

Gymnadenia conopsea (Gnat or Fragrant Orchis) is found in meadows on high or hilly ground in July with rose or red spikes of flowers, in heavy loam overlying chalk, but not unfrequently without a limestone stata. It is very sweetly scented and grows 1 foot high, flowering in June and July.

Gymnadenia viridis (Frog Orchis) has green flowers, and is certainly singular, 9 to 12 inches in height, and is found in meadow pastures in moderately strong loam, usually in combination with vegetable debris in June and July.

Gymnadenia albida is a pretty white-flowered kind and sweet, about 6 inches high, appearing to prefer a soil composed of a peaty loam, flowering in June and July.

Habenaria bifolia (Butterfly Orchis), white, 1 foot high, May and June, flowers sweet, partially shaded ground in woods, in loam, with vegetable debris over the loam or intermingled.

Listera ovata (Twayblade or Wood Orchis), flowers green, small, in a slender raceme about a foot high in May and June. Heavy loam and moist, covered with vegetable debris.

Epipactis latifolia, purplish spotted yellow, 18 inches high, wet ground partially shaded.

Ophrys muscifera (Fly Orchis), lilac purple, May, in heavy loam over chalk, 9 inches.

Ophrys apifera (Bee Orchis), lilac purple, with a velvety centre (bee), 9 inches, heavy loam, and rich. June and July.

The preceding all thrive in an ordinary border of rich loam free of stagnant water, for though moisture-loving it is moisture percolating through the soil in their habitats, the rich soil of our borders compensating in a measure by the humus for the apparent greater moisture of the soil where the plants grow naturally; indeed, the plants are much finer, develop wonderfully under cultivation. *Orchis mascula*, *O. morio*, *O. maculata*, *O. latifolia*, *O. pyramidalis*, *Gymnadenia conopsea*, and *Habenaria bifolia* are splendid border plants, the first-named three being very much finer under cultivation than wild. *Orchis morio*, which had spikes not over 8 inches in length gives them over a foot in length, finer alike in foliage and bloom. My only regret is that I did not in the flowering season “spot” more plants of *O. mascula*, *O. morio*, and *O. maculata*, of which there apparently are several forms, some nearly white; in fact, we collected eight apparently distinct forms of the three species, the woods being very profusely sprinkled with these plants. By spotting I mean marking where the plants grow, for I find it does not answer to lift the plants when in flower, that being best deferred until the stems fade, then lift with a ball, going deep enough to secure some soil beneath as well as around the roots. The roots are usually 2 to 3 inches beneath the surface, seldom over 4 inches deep. We merely remove the surface soil so as to free it of grass or

weeds, and pot or plant as the case may be from 2 to 3 inches deep, using rather strong fibrous loam and leaf soil. Water freely if grown in pots when in growth and until the foliage commences to decay, then plunge in ashes in a sheltered situation, the site being well drained; the rains will after this be sufficient moisture. Introduced to gentle heat in January they will come in with spring bulbs, and are truly grand, their handsome foliage and superb spikes of bloom being charming. I will note a few more that are, perhaps, more curious than ornamental, and which so far as I know do not succeed in an ordinary border.

Orchis fusca (Lady Orchis or Brown-winged Orchis).—The upper part of the flower brownish purple, lower lip white, finely spotted. Sometimes it is not over a foot high, but on a peaty loam and rather strong over chalk, is 2 to 3 feet in height, with flowers proportionately large.

Orchis ustulata (Dwarf-winged or Scorched Orchis) is found in chalky pastures. Its brown or rusty purple flowers with coarse spots, and low close growth distinguish it. Three to four inches high, flowering in May and June.

Orchis tephrosanthos (Ash-coloured flowered or Monkey Orchis).—Flowers lead-coloured, more or less variegated, on a tall spike about 18 inches high. Found on chalky hills in peaty loam, flowering in May and June.

Malaxis paludosa (Bog Orchis) is found in peat or turf bogs, having yellow and green flowers in August or September, growing 3 or 4 inches high. Does well on the margin of a pond in sandy peat.

Opherys aranifera (Spider Orchis) has green flowers in May. Very singular, growing about 9 inches high, and is found in light soil on chalk.

Opherys fucifera (Drone Orchis).—Purplish and green flowers in May and June. Nine inches to a foot in height. In chalky pastures in heavy loam.

Opherys arachnites (Cobweb Orchis).—Brown flowers tinged blue. In May and June. About 9 inches high. Heavy loam among chalk.

Neottia spiralis (Lady Tresses or Ladies' Traces) has spikes of whitish flowers in August and September, and sweet, the flowers all pointing one way. Seldom over 8 inches in height. It grows in chalky upland pastures.

Neottia nidus-avis (Bird's-nest Orchis) is found in chalky woods in loam with a surface-covering of vegetable debris, and differs from a majority of British Orchises in the roots being fibrous instead of bulbous. Its appearance is not unlike a drooping Oak leaf, the roots crossing each other like the sticks of a bird's nest.

Aceras anthropophora (Green Man Orchis) has its flowers in a lax spike, greenish yellow, with a reddish border, but is very unlike man unless it be a hung traitor. Chalky pastures in strong loam. Flowers in June, attaining to a height of 12 inches.

Cypripedium Calceolus (English Lady's Slipper).—Purplish brown, slipper (lip) clear yellow. Leafy stems 12 to 18 inches. Heavy loam and limestone.

Cephalanthera rubra.—Flowers purplish red, 18 inches or more in height, flowering in June and July in heavy loam over limestone, but not unfrequently over grit, with a little vegetable debris. Woods in partial shade.

Goodyera repens has white sweet flowers in July and August, and is found in woods at considerable elevation partially shaded, in leaf soil or decayed vegetable debris, interspersed with sand, the debris being that of moss as well as leaves. 6 to 9 inches.

All Orchises have more or less of shade; if in the meadows the grass affords protection from the scorching sun, and in woods they are more or less protected from the sun by the trees; yet the best specimens are found in partially shaded situations only. Those described as growing in loam over or among limestone or chalk should have pieces of that substance mixed with heavy loam, a good depth of limestone be placed at the bottom in good-sized lumps about 9 inches thick, and over this 9 inches depth of the loam and limestone mixed in about equal proportions, employing surface loam preferably to that taken from a depth. The site must be well drained, and the exposure facing east, with a projecting rock or bush that will shield the spot from cutting winds. The soil must be kept moist, water being given copiously during growth, pouring it between the plants and not over their foliage; and after flowering a slight mulch of cocoa refuse may be given. Those growing in woods should have shade from midday sun, the several requirements of the plants being met at the base

of rockwork having different aspects; good drainage being essential, with a thorough moisture of the soil; none of our native plants experiencing a dry season, yet the moisture they receive is percolating and thorough. The roots are not unfrequently in contact with the limestone, from which they may derive support.—A.

SCOTTISH HORTICULTURAL ASSOCIATION.

THE ordinary monthly meeting of this Association was held at 5, St. Andrew Square, on the evening of the 4th inst. There was a large attendance of members. The President (Mr. M. Dunn of Dalkeith Palace Gardens) occupied the chair. Fifteen new members were duly admitted, and seventeen new names were proposed and seconded for admission as members at the next meeting.

The subject treated was the "kitchen garden" by Mr. Lawrence Dow of Laughton Hall Gardens. At the outset he urged upon young gardeners the necessity of devoting great attention to the proper management of the kitchen garden, so as to keep up a constant supply of first-class vegetables. Some were very apt to overlook this department in their anxiety to have a fine display of bedding and greenhouse plants. He then in a practical and lucid manner described the different methods of treatment by which he had been most successful in growing Potatoes, Onions, Jerusalem Artichokes, Parsley, and Asparagus. Several members expressed concurrence with Mr. Dow's views as to the importance of the subject, and also as to the modes of culture pursued. Mr. Dow received the thanks of the meeting for his paper, and at their request agreed to continue the subject at a future time.

A communication from Mr. James Morrison, Preston Hall Gardens, was read advocating the autumn planting of the Potato, and attaching great importance to the proper ripening of the seed tubers. A vote of thanks was passed to Mr. Morrison for his excellent contribution. The subject for the next meeting was announced to be the "Phlox and Pentstemon" by Mr. James Grieve, Pilrig Park Nursery.

NEW BOOK.

The Rosarian's Year Book for 1877. Edited by the Rev. H. H. DOMBRAIN. London: William Blackwood & Sons.

THIS little volume furnishes information that must be acceptable to all Rose-growers, for it contains contributions from Rev. A. Cheales, Rev. Canon Hole, Mr. G. Paul and others.

The object of the editor, we presume, has not been to diffuse practical instruction so much as to furnish pleasant reading on a congenial topic; yet Mr. Paul's contribution on stocks, supplemented by observations by Canon Hole, is eminently useful. The opening chapter on Rose-showing by Mr. Cheales is as fresh as the blooms at 4 A.M.—the hour recommended for cutting for the show. After enumerating the delights of preparing, exhibiting, and winning, the other contingency, losing, is thus referred to—

Do not abuse the judges. They have done their best, and deserve our sincerest sympathies. Judging Roses is no bed of Roses. "Truth should be told," say the Turks, "with one foot in the saddle." But it should not be essential after judging to take the first train and get off as soon as possible! Neither, again, come down upon your unfortunate gardener. He cannot help it if somebody else's soil is better. Let us carry our Christianity even with our Rose-growing, and learn to rejoice in the gain of another, even though it involve our own disappointment. One thing more, one more delight I must mention, and that is the delight of giving away the prize Roses. Send to those who have not any. During the rest of the season help one of the flower missions. If you so much enjoy those splendid flowers about your drawing-room, think of the brightness they must shed round the sick-ward of the hospital! Let these lead them—have they led us?—to thank the Great Giver of all good things. That is to carry love of Roses beyond the world.

Rose! for the banquet gathered and the bier;
Rose! coloured now by human hope and pain;
Surely where death is not, nor change, nor fear,
Yet we may meet thee, joy's own flower, again!

NEWTON HALL.

NORTHUMBERLAND is by many regarded as a "county of coal" almost exclusively. It is pictured as honeycombed with mines and surface-strewn with black refuse. Its atmosphere is regarded as repulsive—contaminated with smoke, which obscures the light of the sun, rendering the trees stunted and the pastures barren. It is true that these conditions exist, but only to a very limited extent in comparison with the aggregate

area of the county. Some districts are black enough, and, to coin a term, are vegetably destitute, but others are both picturesque and fertile. It is true there may be mines below, but there are verdant hills and fruitful valleys above them. If there are trees black and stunted in one place there are splendid specimens green and luxuriant in others, and these largely predominate. If one locality is dismally garnitured with coal heaps, others far more numerous smile with fruits and flowers. If long rows of pitmen's cottages break the soft flowing lines of the landscape and stir not the soul of the artist and poet, they shelter many a contented, thrifty, bread-earning and wealth-winning family—wealth which is seen in many a stately mansion, many an extensive and well-wooded park, many an excellently appointed and ably managed garden. Northumberland may be a black country, but it has nevertheless a very bright side, for in few counties are the industrial classes better off or the affluent more genuine and generous. Some of the bright places of the county have from time to time been noticed, and one worthy of being added to them is Newton Hall.

It may be said at the outset that Col. Joicey is the owner of Newton Hall and an extensive tract of land surrounding it, and Mr. Wardle is the gardener. The greatest honour pertaining to the owner, an honour which commands the respect of all men, is that he has won his position by his own efforts. Laborious, persevering, and far-seeing beyond his fellows, he has risen and risen until he has found his level, and that a high one. Perhaps no county has afforded more striking instances of industrial and commercial successes than Northumberland. Instances are afforded by names that will never be forgotten, for they are indelibly engraved on the historic tablets of the nation—George Stephenson and Sir William Armstrong. Equally signal, and achieved by means not less honourable if necessarily more obscure, have been the successes of many others, and amongst them Col. Joicey. His grand inheritance is indomitable work; his reward, not vast possessions and great wealth only, but in rendering assistance to deserving objects public and private, and making those about him happy and contented.

Mr. Wardle, like his employer, is a man of ability and perseverance, and is a successful representative of his calling. Not only is he a skilful cultivator, but is a raiser of new plants, and one, of which many gardeners know the value, bears his name—*Allamanda Wardleana*; he has further considerable competency as a landscape gardener, as many recent improvements in the gardens and grounds testify. Alterations have for a considerable time been carried out on an extensive scale; indeed, the place has been entirely remodelled since Col. Joicey purchased it nine years ago.

One of the latest improvements has been the formation of a suitable approach to the mansion. This has been a work of no small magnitude, for the carriage drive is fully a mile in length, proportionally broad, and traverses an undulated park-like district. This fine road has not only been thoroughly drained and well constructed with a sufficient depth of "metal" surfaced with gravel to render it firm and clean at all times, but it has been made as level as a railway by excavation—lowering the hills and raising the valleys. The margins of the drive have been boldly treated and planted. The temptation here must have been great to have planted a formal mixed shrubbery; but correct taste would have risen in rebellion against the adoption of a gardenesque style to which the surroundings are so manifestly inappropriate. On both sides of the drive the plants and shrubs are arranged in irregular groups. Hardy Heaths have been extensively employed for forming a semi-wild carpet, also Periwinkles, dwarf Hypericums, Ivy, and low-growing plants of that nature. There are also large groups of Furze, Broom, &c., with breadths of shrubs of different kinds. Where excavations have been done the side banks are planted with such trailing plants as *Cotoneasters* and others of that nature, and even *Brambles* are not ignored. Conifers are also planted in groups at appropriate intervals and in suitable situations. Everything is planted closely in order to cover the ground quickly and to produce a semi-wild effect, which is so pleasing when, as is the case here, the position is suitable. Many thousands of trees, shrubs, and Conifers have recently been planted on the estate, and the collection of them is regarded as the most complete in the north of England.

This natural system of planting referred to is not altogether a new feature at Newton Hall, for of older drives near to the mansion the sides afford examples of the plan which may

be said to be in a matured state. The distinct groups, irregular thickets, and bold masses of shrubs (chiefly perhaps shrubs of dwarf and procumbent growth with the striking contrasting hues of foliage) produce an admirable effect—very different and much more imposing than if they had been arranged on the patched and dotted system that usually prevails. The mode of planting adopted is evidence that the teachings of Nature have not been ignored, but, on the contrary, have been followed with greater freedom and fidelity than is generally fashionable. Colonel Joicey will in a few, very few, years be the gainer by the adoption of this free and easy style, and his gardener's reputation will be proportionally enhanced.

The mansion is a much larger structure than is represented in the distant view of it as seen in the engraving. It has been considerably enlarged, and further additions to it are contemplated. Internally its fittings and decorations cannot fail to arrest the attention of the observer. The paintings alone have involved a cost of £80,000; they are incidentally alluded to because they were brought under notice by traversing the corridor leading from the conservatory which conducted us into the interior of the mansion.

The conservatory, which is partly shown on the left of the mansion (fig. 86), is noteworthy both for its size and contents, also because it was erected by Col. Joicey's own workmen under the instructions of Mr. Wardle, who supplied plans and working drawings of the several details. It is 140 feet in length, 40 feet in width, and 39 feet in height. It is encircled by a gallery, to which access is had by a spiral staircase. In appearance it is plain yet very light, being simply a large lofty span-roofed structure, the roof being supported by light pillars and braced with cross ties and girders; these are draped with climbers, which hang in festoons and contribute materially to the ornamentation of the building. The more conspicuous of the roof plants are *Cobæas*, *Passifloras*, and *Tacsonias*, *T. Van-Volxemi* being represented by a variety having flowers unusually rich in colour. The main body of the house is occupied by a large bed containing many plants which are noteworthy on account of their size, cleanliness, and luxuriant health. Only a few of the plants can be referred to. Those which chiefly arrest attention are perhaps the Tree Ferns. *Dicksonia antarctica* raised from spores by Mr. Wardle are now towering specimens having a spread of fronds of 15 to 20 feet. Equally fine is *D. squarrosa*. These are remarkable specimens considering their age, and are in exuberant health. A pair of *Cyathea dealbata* are about 11 feet high, with a spread of fronds of 18 feet. Some fine Palms also command attention, notably splendid specimens of *Chamærops Martiana* and *Fortunei*. *Camellias* are in remarkably fine condition; a plant of *Alba plena* annually produces two thousand blooms. The green-foliaged specimens are relieved by variegated *Yuccas*, *Aralia Sieboldi variegata*, and the conspicuous *Eurya latifolia*, which is 7 feet high and 3½ feet in diameter and excellently furnished in every part; it is highly effective. Some well-grown examples of *Arquearia excelsa* also show to great advantage. The specimens noticed are planted out sufficiently thinly to develop and to show their fine proportions, and their good effect is enhanced by the carpet of *Lycopodium denticulatum* which covers the ground. On a side stage specimen ornamental-foliaged and flowering plants are arranged.

At the end of the conservatory farthest from the mansion is a fernery. It represents a wild cavernous-like arrangement of rocks with rugged passages. Plants are arranged in appropriate nooks, and are thriving admirably. Conspicuous is a fine example of *Cyathea medullaris*, and *Monstera deliciosa* is growing luxuriantly and fruiting freely. *Woodwardia radicans* is growing in baskets associated with other suitable plants. It is a cool retreat—a pleasing change from the conservatory, and is made additionally enjoyable during a sultry day by the constant trickling of water into a pool at the base of the rocks. It is proposed to extend the conservatory, so that this enjoyable fernery will be under the same roof and become a part of the same structure.

Further on—travelling westwards—we arrive at a large and lofty structure devoted to stove plants. Some of the specimens would be formidable antagonists if brought into the exhibition tent. *Crotons variegatum* and *angustifolium* 10 feet high, handsomely formed and in superb health and colour, are not to be slighted. *Allamanda Wardleana*, 7 feet by 4½—the true kind—covered with flowers 8 inches in diameter, is not to be despised. *Rondeletias*, *Clerodendrons*, and other flowering plants are similarly large and fine. Palms, *Dracænas*, *Crotons*,

&c., are represented by healthy plants of recent introduction; for instance, Mr. Williams's attractive *Croton Queen Victoria* has found its way here, and Messrs. Veitch's fine golden trilobed variety *Earl of Derby*. Other plants must be passed; but one, an old one, demands notice—*Cissus discolor*. This plant, with leaves nearly a foot in length and in rich colour, is a fine feature in this house. It clothes the end wall, and for the purpose for which it is employed no plant in cultivation could produce a better effect. Adjoining the stove is a large vinery. It is 150 feet long and wide in proportion, and at the end of the vinery is a large span-roofed house devoted to Heaths and other hardwooded plants. This important range of glass, being in immediate connection with the mansion, renders the vinery somewhat incongruous, and since others are now erected in the kitchen garden this house will be taken down and its site be turned to an ornamental purpose.

At the front of this range of glass structures is the flower

garden, which in summer is occupied with bedding plants of the usual type; the modern style of carpet bedding is also well carried out. Spring bedding is also adopted, and a hundred thousand plants are annually provided. A terrace walk 200 yards in length conducts us past the mansion, and the view from this walk is most extensive. Contiguous to the walk are several acres of open lawn, which slope to the park, and this in turn has a gradual descent to the lake. Beyond the lake is a belt of woods, and beyond the woods a range of hills—bold and extremely picturesque. The west end of the terrace walk terminates in an avenue of Limes. This avenue, which is 400 yards long, merges into a wilderness walk, which extends to the woods beyond the lake.

The kitchen garden is about a quarter of a mile from the mansion. It is three acres in extent and nearly new. It slopes sharply to the south, and overlooks a fertile valley. The prospect over this valley to the distant hills is a splendid



Fig. 86.—NEWTON HALL.

one, is indeed probably unequalled by that from any kitchen garden in the kingdom. The walls are being well furnished with fruit trees, and the sides of the walks are wired for espaliers. Very substantial provision is made for protecting the fruit in this garden from birds, for permanent three-quarter-inch iron bows are affixed over the beds. These bows are 6 feet high for Gooseberries and 4 feet for Strawberries. They have a neat appearance, and nets thrown over them render the fruit safe. The south wall of this garden is covered with glass, the range being 200 feet long and devoted chiefly to the cultivation of Vines, Peaches, and Nectarines. The growth of the Vines and trees is of the most satisfactory kind, and Royal George Peaches were gathered during the summer weighing 10 ozs. Forcing pits are conveniently arranged near Mr. Wardle's residence, and are in full working order. About two miles of pipes are requisite for heating the several structures, a combined saddle and tubular boiler with water bars doing its work efficiently.

The lake has been mentioned, but it demands more particular notice. It is an artificial sheet of water seven acres in extent. It was designed with much taste by Mr. Hancock of Newcastle, who also assisted in the formation of the principal walks and drives; and the work was executed by Mr. Wardle, who was also entrusted with the planting of the estate. Although the lake is still unfinished it has the appearance of

having been formed by nature and to have existed from time immemorial, so skilfully has it been conceived and executed.

But something more remains to be said in connection with that lake. Its owner, a sturdy Northman who has fought successfully the battle of life, is naturally an admirer of those of humble birth who have, equally with the victorious warriors of noble lineage, deserved well of their country. Before him every day he has a cherished memento of an act of true heroism which of its kind is perhaps without a parallel in any country. Do you see the boat moored on the placid waters of the lake? "Yes. What about it?" Look at it again; it is but a rude little cobbie, but is worthy of a second glance. That is an historic boat, the possession of which many might be proud of owning. That boat has not always been moored on the lake at Newton; it has not always been empty; no, it has been battered by the waves of a sea as rough as ever foamed, and has been manned by a form as gentle and brave as ever breathed. It has more than once snatched precious lives from the jaws of death, and deprived the angry sea of its victims. One of the crew of that boat performed a deed—a daring benevolent deed—which excited the admiration of "England and the Isles," which gained for the humble individual who manned it the friendship of a noble duchess, and obtained a personal tribute of approbation from our present Queen. A broken plank from that boat has been divided into

mere fragments, which are preserved by the possessors of them as relics associated with an exceptionally brave and noble act. The act at the time was in all men's minds and mouths, and now it is recorded in books of story for the edification of youth. Do you yet ask "What boat is it?" or do you anticipate its name? Name! it has no name, but that does not matter, for, as many northerners know well, that boat was Grace Darling's. Yes, the veritable craft which on that eventful morning, September 7th, 1838, the intrepid girl—for she was only twenty-two years of age—against a mother's tears implored the aid of her father to rescue the remnant of the crew of the steamer *Forfarshire*, who had given up hope and were clinging in despair to a portion of the ship and the rocks of one of the Farne Islands. By a desperate effort the father was landed on the rock and the daughter was left alone and kept her cobbles afloat by rapidly pushing back from the rocks to prevent the boat being dashed to pieces against them. With much skill and true courage the whole of the wrecked, nine in number, were placed in that little boat and were eventually landed at the lighthouse—the humble but hospitable home of the Darling family. It was this brave act that rendered the boat famous which is now moored on the lake at Newton, and which raised the modest maiden from obscurity to renown. Presents were sent to her from all districts, a public subscription amounting to £700 was presented to her, and it is recorded that the managers of a London theatre offered her £800 for eight nights to sit in a boat on the stage. Her reply to this and similar offers deserves to be remembered. It is to the effect that "she doubted not that if she saw lives in jeopardy she would feel it her duty to do again what she could to save them, but she could not think of exhibiting herself for gain." Well might the public, from the Queen to the peasant, be proud of one so noble-minded, and well may her little boat be so jealously preserved. "It was," says *Arthur's Life of Grace Darling*, published by Adam & Co., Ivy Lane, Paternoster Row, London, "for a number of years in the possession of Mr. George Darling, brother of Grace, of North Sunderland, who seems to have taken some care of it, knowing that the public set a high value on it. Many persons wished to purchase it, but he always refused to sell it till a few years ago. After several applications by Major Joicey he was induced to let that gentleman have it, believing that it would be well taken care of." The sum given for this little craft was a large one. It is a prominent and interesting object in the lake during the summer, and any notice of Newton Hall would be unpardonably incomplete without a brief reference to "Grace Darling's boat."

Such is Newton Hall—its grounds, gardens, and features of interest; at least such as can be remembered of them from a two-hours visit in September, when the pouring rain rendered mental notes the chief resource. Many impressions then gained have doubtless vanished, but not those of the singular completeness of the place and its excellent order, nor of the manifest solicitude of Col. Joicey in providing for the welfare of those around him. A beautiful new church, which has been erected and liberally endowed, also a commodious parsonage and excellent schools, are remembered—a noble gift. New and well-appointed living rooms and library for the under gardeners and model cottages for the labourers are also remembered; and the house—and "home" as well as house—of Mr. Wardle and the kindly welcome met with there are not likely to be forgotten.

Newton Hall is about three miles from Stockfield station, which is reached in about half an hour by train from Newcastle.—J. WRIGHT.

CONIFERÆ AT MELS PARK, SOMERSET.

THE late Rev. J. S. H. Horner was well known as an ardent lover of trees and an enthusiastic admirer and collector of Conifers, with which he commenced forming a pinetum at his seat, Mells Park, Somerset, about the year 1845, in which he planted most of the Coniferæ then known to be hardy enough to withstand the climate of Great Britain. His son, the present worthy proprietor, is an equally enthusiastic admirer of Conifers, and is continually adding some rare or choice specimens to the already rich and extensive collection.

The pinetum occupies one of the hanging portions of the park, with a fine exposure and a good soil; but unfortunately the subsoil is one of the least favourable upon which to establish a collection of Conifers, the large proportion of lime it contains being too great for them to flourish in perfection,

the result of which is that some of the oldest specimens present a rather rusty and stunted appearance. There is a great variety of the choicest Conifers grown, as may be judged from the annexed list, some of which are rather uncommon, and decidedly merit a few remarks. *Pinus ayacahuite* is a distinct and beautiful variety, and is a healthy and thriving specimen. This tree somewhat resembles *Pinus excelsa* in its habit and the length of its leaves, but the colour of the latter is nearer to that of *P. Strobus*. It is, I believe, a very rare specimen—indeed, it is the largest and finest specimen of the kind I ever remember to have seen. *P. romana* is a distinct variety, its globular-shaped head of very dark green foliage being exceedingly striking and conspicuous. *P. monticola* is a beautifully neat and pretty-looking Conifer; it is healthy and thriving. *P. scarina*, *P. Lemmoniana*, *P. Pallasiana*, and *P. pyrenaica* are robust specimens; they are, however, to my mind coarse-growing trees of the *Pinaster* type. *Wellingtonia gigantea* is thriving beautifully in the clay of the coal measures, and the specimens exhibit healthy robust pyramids of foliage.

Probably if the pinetum had been formed on the clay instead of the conglomerate and limestone formation, the Conifers generally would have been much larger and healthier now than they are. *Picea grandis*, *P. cephalonica*, *P. Nordmanniana*, and *P. Pinsapo* are all beautiful varieties, and they are each making a clean, free, rapid growth, and promise in time to make grand specimens.

Abies Albertiana is growing freely; it is the most graceful of all the Spruce species, and it is at the same time a rapid grower and does not possess such a strong tendency to a bushy habit of growth as is exhibited by its congener the Hemlock Spruce (*Abies canadensis*); its foliage, too, is a darker and better green than the latter. *Abies orientalis* is a pretty specimen, and it is a most eligible subject with which to adorn a lawn. Its short, neat, soft green foliage and symmetrical habit of growth are its most distinct and attractive features. *Abies Douglasii* and *A. Smithiana* are of a robust habit of growth, but both are graceful and handsome specimens. *Taxodium sempervirens* is well represented by a fine vigorously grown tree. It would have been probably the tallest specimen in Britain had it not lost its leader for several years; it has, however, now formed a new leading shoot, and promises to thrive well. The three Cypresses are elegant and noteworthy specimens, each presenting a distinct and beautiful habit. The *Araucarias* are good specimens, but are not in a very healthy state. *Fitzroya patagonica* has a very graceful drooping habit, but its foliage presents a rusty appearance; indeed, I never saw a plant of *Fitzroya* otherwise, and I doubt if it is at all suited to our climate, unless in the very mildest and moist localities, with a climate approaching its native habitat on the Pacific slopes of the mountains of Patagonia. There is also a large collection of the newer kinds of recent introduction, many of which give good promise of forming beautiful specimens in the course of a few years. To all lovers of Conifers a visit to Mells Park and an inspection of its fine collection of rare and beautiful trees cannot fail to be both instructive and interesting.—GEORGE BERRY, *Forester, Longleat*.—(*Journal of Forestry*.)

CHAPTERS ON INSECTS FOR GARDENERS.

No. 20.

THE valuable but native Silkworm Moth (*Bombyx Mori*), is in some respects a fair representative of the family *Bombycidae*, sluggish both in the moth state and in the larval condition, our British species of the family generally resembling it in the former respect though not in the latter. Our species are also spinners of silken cocoons; it is not, however, found possible to make their silk available for economic purposes even by carding. That handsome but local species the Emperor Moth (*Saturnia Carpini*), is noted for producing a peculiarly-shaped cocoon, with one end formed on a modification of the lobster-trap plan, so that while the moth can get out its parasitic enemies cannot get in. Sometimes, though, by way of anticipation, they deposit eggs on the caterpillar, which then encloses its foes with itself in the cocoon and comes to an inglorious end. The moth has beautiful eye-like markings, yet one cannot perceive an appropriateness in the imperial name applied to it. Another and still larger species, the Lappet (*Lasiocampa quercifolia*), has, while a caterpillar, curious tubercles along the sides partly hidden by hairs, originating the singular name; and the cocoon, though formed of a kind of silk, assumes a black hue and leathery appearance. That of the Drinker (*Odo-*

nestis potatoria), is also leathery but yellow. The gaily adorned caterpillar is well clothed with hairs, which cover even the feet, and by which the creature bids defiance to our changeful winter, feeding on grasses at intervals from September till May, but is not in any degree prejudicial to fields or lawns, preferring as it does the growth along hedgerows. An exceptional circumstance in caterpillar history is the partiality shown by the caterpillar of *O. potatoria* for the drops of morning dew, which it will sip with pleasure, though most caterpillars evidently entertain quite different opinions about moisture. Damp weather, indeed, appears to be the cause of one of the most fatal ailments prevalent amongst caterpillars, nor do the hairy species, as a rule, escape its influence. In several of these species the moths have been called "Eggers," from the egg-like form of the cocoons; and in one species, the *Eriogaster lanestria*, notable for its gregarious caterpillars, the chrysalis condition has been observed to last two, three, or even five years. Only a single moth in the family (*Bombyx neustria*), is to be reckoned among injurious species, and the favourite food of the caterpillar is Hawthorn, though it is occasionally to be seen on Elms, and on Apple trees in orchards. Feeding when young in companies, these caterpillars scatter about after the last change of skin, and the blue head showing two dark spots with the striped body render it easily recognisable. Rennie has remarked on the circumstance, that a party of them if startled by a noise all jerk their heads in the same direction, an indication that their hearing is good. There are three if not four suppositions as to the meaning of the name "Lackey" applied to this species.

The family of the Cuspidates, also called Pseudo-Bombyces, I take next, though it is sometimes placed after the Geometers, that extensive and well-known family of moderate-sized moths with slim bodies. In appearance the moths of the Cuspidates closely resemble the Bombycids. Though some of them can fly with tolerable swiftness, their figures do not suggest rapidity of motion generally; the singular species denominated "Hook-tips," have, however, slim bodies, and prefer taking excursions by day. The caterpillars may be subdivided into two groups—those that are more or less humped or otherwise eccentric in form, often with, in addition, one or two points at the extremity of the body, of which the Puss (*Dieranura vinula*), is a handsome example; and those of the ordinary cylindrical type, less in number, like that of the Figure-of-8 (*Diloba cæruleocephala*), whose bluish-green cranium has given rise to its very resonant Latin specific name; and, dismissing it in a word, we may note that the caterpillar is one of the host that feed on the Hawthorn, being more conspicuous by the black warts even than by the head, but not abundant enough to be harmful. The small compact cocoon is curiously made-up of gnawings from the bark of the twigs mingled with bits of leaves and silk. Another caterpillar of the customary shape is that which ultimately produces the Buff Tip (*Pygæa bucephala*), an ubiquitous species, which makes itself thoroughly at home in our London suburbs, maliciously anticipating the effects of autumn upon the trees in our parks and shrubberies by baring them of their leaves during July. It is, though, almost the only species of the Cuspidates that can be deemed troublesome to mankind, and in its favour we may state that the caterpillars seldom touch fruit trees, but feed freely on Lime, Elm, Hazel, Willow, and of course Hawthorn. The dull yellow body is marked with bright orange, white, and black, and when in repose, like most Cuspidates, they like to raise the last pair of legs in the air. The head has certainly a "truculent" aspect, and the Buff-Tip caterpillars manifest an exceptional sourness of disposition, for one of them if in the least offended turns its black head sharply and attempts to seize any person or thing within reach. As the chrysalis is simply laid on the surface of the ground without any protection it is easily found by fowls, and Mr. Newman credits these with good service in reducing the number of moths. He says, "These chrysalids constitute a favourite food for poultry, and are sought for with great eagerness. Dame Partlet may often be seen scratching for them in my own neighbourhood under the Lindens." The moth, too, conspicuous by its buff tip, may be readily captured in June ere the eggs have been deposited.

The Puss (*D. vinula*), already referred to, which occasionally excites wonderment when it is seen as a caterpillar on the Poplar or Willow, is not common enough to do damage, though its menacing horns scare-off children who would otherwise remove it from its food. These horns or tentacles are really harmless, but this caterpillar has a means of defence in an acid liquor which it can eject at will from an aperture just

under the head. The tenacity with which the "Puss" and its small relatives the "Kittens" cling to the leaves or twigs is remarkable; they are seldom dislodged by the highest winds in exposed situations, though the caterpillars do not prefer such spots. So tough is the cocoon this species constructs that it will turn the edge of a knife, yet the moth manages to escape from it uninjured. Strangely shaped, again, is the "Lobster" caterpillar (*Stauropus Fagi*), the lengthened second and third pairs of legs, the singular head, the deeply-marked segments, all suggesting a creature which one would scarcely know how to class if the moth did not closely resemble in structure the rest of the family. Several of the Prominent moths have eccentric caterpillars, that of the *Notodonta Ziezæ* for example, doubles itself up in a zigzag manner, which would be prejudicial to its circulation had it any blood. The Willow, Sallow, and Poplar are trees much resorted to by the Prominents, some of which are of such rarity that collectors travel many miles in search of them. These, and others in the Bombycids also, are conclusive instances against a theory lately put forth, that most gaily-coloured caterpillars feed on poisonous plants. The largest of the Prominents (*N. trepida*), occurs in Oak woods, and sometimes flies into houses, attracted by the glare of lights. Honey or other sweets do not, however, hold out any temptation to moths in this family, as the organs of the mouth are very small, and in most species no nutriment is sought by the perfect insect. In the caterpillar of the Great Prominent the circumstance is worthy of notice that we have a display of seven oblique stripes on the sides, as in many species of the Hawk Moth family; but in this caterpillar the stripes slant in just the opposite direction to the uniform mode amongst the Hawk Moths. Each stripe is regularly divided by two tints, half being pink and half whitish yellow. There are also various additional markings on the light green ground colour, so that altogether it may bear comparison with any caterpillar as regards beauty, though to some people it may seem ludicrous to apply that word to a creature which is popularly associated with repulsive ideas.

In the month of May, and again in August, on tapping slightly one of the mixed hedgerows which give a charm to the lanes in most of our English counties, the little moth, *Cilix spinula*, either flies tardily out or falls like a snowflake on the path. This species, also known as the Chinese Character from some peculiar silvery rays on the fore wings that have been fancifully compared to Chinese letters, is the smallest of the Cuspidates, and of very delicate structure. The caterpillar keeps close under the leaves of Whitethorn or Bramble, having a head cleft on the crown, and a body curiously wrinkled and studded with warts; the anal extremity has no claspers, but instead a solitary spike or filament. One group of small moths have so puzzled naturalists that it has been debated whether they are moths or flies. These insects, the Psychids, are now generally placed next the Cuspidates, the males having stout bodies and pectinated antennæ, the wings extending from half an inch to an inch. The females are without wings, and even in the species of the genus *Psyche* minus antennæ and legs, therefore worse off than the caterpillar, for though that lives in a case it can travel about with its domicile from place to place. In or near gardens the case of *P. nitidilla* may be observed during spring on Sallow, Hawthorn, and other low shrubs, this case, however, not being formed of portions of the food plant, but of evenly-chopped bits of grass connected by silk. The moths come forth in June, the females sitting on the outside of the cases upon which they lay their eggs. In *Psyche* the females are, of course, unable to quit the larval case at all. *P. fusca*, which used to be caught at Hornsey Wood in the "good old times," makes a case of variegated appearance as fragments of leaves and grass are crossed ingeniously.—J. R. S. C.

GLAZING WITHOUT PUTTY.

IN answer to "E. W. B.," respecting glazing without putty. I did so glaze a vinery and afterwards a conservatory, and with the latter, which has been erected three years, I am perfectly satisfied. The builder spoiled the roof of the first by neglecting to carry out minutely the instructions given on one point which is absolutely essential to prevent drip. That being attended to in the conservatory the house turns rain like a bottle. The rafters may be from 15 to 20 inches apart and must be formed thus: The groove shown is to convey drip to the face-board and eaves-trough, and the outer edge of the rafter at points marked x must be clear of the glass, or drip

will run down the rafter into the house. It is difficult to make joiners see this, as it involves a little more work and appears so trivial a matter, yet neglect of it will cause all the work to be done a second time, as in my first house.

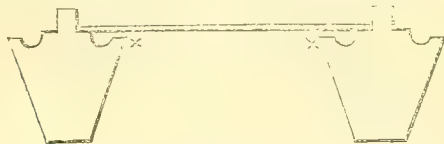


Fig. 87.

It is not essential that the glass be cut with great exactness, though better that it should be. If there be even space to thrust a knife blade between frame and pane I have found the drops of moisture travel easily from one to another, and a little top ventilation is conducive to the health of plants. Each pane is secured by small indiarubber rollers put on with screws, and three-eighths of an inch thick. The last row of sheets should not rest upon the face-board, but be raised up by a very thin wedge, just to allow the drip free access to the eaves-spouting, and the grooves of the rafters should die out upon the face-board for the same purpose. The front and doors are glazed in the same way as the roof, and a broken pane can be replaced at any time with great ease.—J. W. LAYCOCK.

TEMPERATURE AND HUMIDITY OF THE AIR AT DIFFERENT HEIGHTS.

A MEMOIR on the temperature and humidity of the air at different hours, by Dr. H. E. Hamberg, based on observations made by him during the summer of 1875, at heights varying from 2 inches to 22 feet above the ground, was published recently in the "Transactions" of the Royal Society of Sciences at Upsal. The memoir is a valuable one, and is of interest to more than the mere meteorologist, it being evident that the inquiry is so handled as to bring it into close connection with such difficult questions as convection currents in the free atmosphere and the diffusion of vapour through the air.

In clear weather the temperature of the air nearest the surface was lower than that above it, from two to three hours before sunset to at least two or three hours after sunrise. At all the six heights the temperature fell to the minimum at the same hour—viz., about 3 A.M.; but while it continued from this time to rise steadily at all the heights, the lowest temperatures continued to be observed in the strata nearest the ground till several hours after sunrise. From this remarkable result Dr. Hamberg concludes that the increase of temperature in the lower strata of the air in the early part of the forenoon is not an immediate and direct consequence of the heating of the ground, but is rather to be attributed to the absorption by the air, or more strictly by its aqueous vapour, of the heat received from the sun's rays or reflected from the ground.

Over uneven ground covered with vegetation the temperature near the surface is generally higher over those parts of the field which rise above the general level. Thus even slight elevations of only 1 or 2 feet have the air immediately resting on them often 2° higher or more, whilst on the other hand a trench or depression 1 or 2 feet below the general level has the air resting on it often 2° or more lower than the air over the level portions of the field, a result of considerable practical importance in agriculture and horticulture.

The latent heat set free on the formation of dew appears from the observations clearly to retard the lowering of the temperature, but not to the extent which might have been expected. When, on the deposition of dew, the temperature of the air near the surface has fallen below 32°, as soon as the dew is congealed into hoar frost the temperature of the lowest stratum of air in contact with the ground instantly rises to 32°; but at the same time the temperature of the air higher up steadily remains lower than 32°.

The absolute humidity of the air on clear nights on which no dew is deposited decreases from the ground upwards, just as happens during the day; but on the other hand, with dew the humidity is least nearest the ground, and increases with the height; and this influence of dew in diminishing the humidity extends upwards to at least 22 feet, the height to which the observations were carried. Since his observations clearly show that the absolute humidity begins in the evening, to diminish near the ground before any dew is observed to be

deposited, and also diminishes at all heights on those nights during which no dew whatever is formed, Dr. Hamberg is of opinion that the diminution of the humidity of the air during night is to be sought for in other physical causes than the deposition of dew.

Several of the points discussed will doubtless be made subjects of further investigation by others. In all cases it is most desirable, indeed absolutely necessary to a critical valuation of the observations, that the authors give woodcuts and descriptions of the exact position and mode of protection adopted in the case of each thermometer employed in the observations. For such refined inquiries the method of observation must necessarily be a refined one; in other words, such as will certainly secure the necessary comparability among all the instruments.—(Nature.)

NOTES AND GLEANINGS.

At a general meeting of the ROYAL HORTICULTURAL SOCIETY held on Tuesday the 4th inst., G. T. Clark, Esq., V.P., in the chair, the following candidates were duly elected Fellows—viz., Mrs. Bostock, Lady Canningham, Mrs. Going, Mrs. Robert Maxwell, Sir George Meyrick, Bart., R. J. Pettward, F. J. Smith, Mrs. D. Hall Willats. Mrs. F. Gallup and Mrs. Lewis were admitted guinea members.

THE Veitch Memorial Trustees at a meeting held on the 4th inst. confirmed their provisional resolution to place a VEITCH MEMORIAL MEDAL with a prize of £5 at the disposal of each of the under-mentioned societies for the several subjects specified, it having been ascertained that the exhibitions in 1878 of the respective societies will take place at a period of the year when these subjects can be produced.

MANCHESTER, June 7th.—For the best specimen Orchid in bloom.
YORK, June 19th—21st.—For three bunches of Black Hamburg Grapes.
CLAY CROSS, August 13th.—For a dish of Peaches and a dish of Nectarines.
HEREFORD.—For twelve cut blooms of the best new Rose sent out within the last five years.

EXETER, August 23rd.—For a collection of twelve kinds of vegetables, distinct.

BRIGHTON, in June.—For one bridal and one ball-room bouquet.

WOODBIDGE, July 11th.—For three stove or greenhouse plants in bloom, distinct.

READING, May 23rd.—For three stove or greenhouse plants in bloom, distinct.

DUBLIN, Royal Horticultural Society of Ireland, in August.—For three bunches of Muscat of Alexandria Grapes.

BELFAST.—For twelve cut blooms of the best new Rose sent out within the last five years.

The prizes are to be open to competition amongst *bona-fide* gentlemen's gardeners eligible to compete at the several shows, and the subjects exhibited are in all cases required to display superior cultivation.

AMONGST berry-bearing plants for stove and greenhouse decoration during the winter few are more effective than well-grown examples of *ARDISIA CRENULATA*. The system adopted by those who grow this plant largely and well is to raise seedlings, and, when large enough, to cut off their tops and strike them in a close well-heated frame or propagating house. When rooted the plants are grown rapidly and close to the glass, and they eventually flower profusely and produce their brilliant berries in great abundance while the plants remain in a dwarf state. They continue ornamental for many months, and are admirable for vase and room decoration.

THE new ZONAL GERANIUM DR. JOHN DENNY, raised by J. Sisley of Lyons and exhibited by Mr. Cannell, has, writes a correspondent, quite set at rest the probability of a blue or purple variety being produced, and great honour is due to its distinguished raiser. Besides its prevailing purple colour the base of each petal is bright crimson tinted with orange, which gives it a striking appearance; this, together with its fine trusses, free growth, and shape of blooms, renders it one of the best for pot or house decoration.

THE glaucous form of *PICEA NOBILIS*, as exhibited by Messrs. W. Paul & Son at the Royal Horticultural Society, is extremely ornamental. We have recently seen the same glaucous form of this fine Conifer in the collection of Mr. Richard Smith at Worcester, and of Messrs. Cranston & Co. at Hereford. The grafted specimens of this variety are very distinct, and are much more striking than the usual seedling forms of this popular Conifer: both varieties are, however, sufficiently ornamental to be included in all choice collections of ornamental trees.

It may be useful to note that the striking and floriferous examples of the old and effective *FUCHSIA DOMINIANA* which

were exhibited by Messrs. Veitch at South Kensington last week had been potted from the open ground. The cuttings had been struck in March and eventually planted out. In the autumn when the flower buds were showing the plants were potted in rich soil, and they will in all probability continue flowering throughout the winter. Since this simple mode of culture has been proved so successful, this distinct and highly ornamental variety should become very popular for decorative purposes during the late autumn and early winter months. The beauty of its bright trumpet-shaped flowers is enhanced by the rich dark foliage, which is much finer than that of most other Fuchsias.

— The great Exhibition now being held in the Agricultural Hall, Islington, is highly worthy of inspection by all who are interested in the cultivation of the soil. Besides the live stock and implements for the farm, garden, and household the remarkable collections of roots exhibited by Messrs. Suttons, Carters, Webb, Harrison, Gibbs, &c., cannot fail to possess interest to many of our readers who are more or less identified with agricultural pursuits.

— THE ADULTERATION OF SEEDS ACT is evidently not to be any longer regarded as being inoperative. A firm of seedsmen composed of Messrs. Walter Jacob Maas, James Frith, and Alexander Frith, were summoned before the Magistrate at Southwark Police Court on the 10th inst. for selling to Mr. Alexander Francis 2 cwt. of White Clover seed dyed with intent to defraud him. Evidence having been given of the purchase of the seed, Mr. Bernard Dyer, F.C.S., member of the Society of Public Analysts, proved the existence of a practice for rendering worthless seeds saleable by subjecting them to sulphur fumes, which changed the appearance of the seed. Mr. Edmund Clarke, who appeared for the defendants, contended that under the wording of the Act no illegality had been committed. Mr. Benson, the Magistrate, regretted that such appeared to be the case and felt bound to dismiss the summons, but offered to state a case for appeal to the Court of Common Pleas. It is clear that those who now tamper with seeds are playing a dangerous game, and they cannot pursue their nefarious practices with impunity. If the weakness of the Act has been pointed out it can only have one result—the Act must be amended.

— We have received a pamphlet entitled "THE POTATO DISEASE, illustrated by photo-micrography," by Robert Bell, M.D., &c. It comprehends much information. We make two brief extracts. "There can be little doubt in the fact that a great amount of Potato disease is due to bad situations being chosen for the crop, and sowing it in other instances in soil which is rendered unfit for its culture, either by being naturally too heavy or badly drained. . . . What are the means which should be adopted to preserve our Potato crops? First, it is necessary to select a light soil so that the tuber may be kept as dry as possible, a condition which is essential to the health of the Potato. When the ground is heavy, and consequently retentive of moisture, the Potato becomes watery and unhealthy, and therefore more liable to become a prey to disease. Secondly, Potatoes in a moist climate like ours ought always to be planted on an elevation, never in a hollow. Every sunbeam should be able to shed its influence on the plant, and every breath of wind ought to be able to find access to its leaves and stems. Another most important consideration which requires the Potato cultivator's most watchful care, and that is to be certain that he procures his seed from an entirely different locality from that in which he intends planting his crop. It is most essential that the seed be as new to the soil as possible, as by this means a much more vigorous plant is reared, and therefore it will be less prone to disease. Too much cannot be said upon the error of planting crop after crop from seed taken from ground in the immediate neighbourhood. It is sure to degenerate, the weakness of the parent becoming intensified in the offspring. The question is often asked, How is it if a fungus, which you maintain is ever present, be the cause of the disease, it did not manifest itself till 1836? I believe not renewing the seed sufficiently often has a most important predisposing cause, another I believe to be the overcrowding of the plants. It may be asked with equal force, How was it that certain diseases did not develop their symptoms in man before the dates which history tells us were the periods when they first unmasked themselves? A like answer may be given—the social and sanitary conditions of man had so far deteriorated that favourable conditions for the generation of the various specific diseases sprang into existence, and it is—as

far as science can prophesy—certain that if we undo all the evils which have provoked the various zymotic poisons into activity, they will recede into the passive existence which enveloped them in the past. Keeping the essentials just mentioned before us we should endeavour to plant the rows in the direction of the prevailing winds, and they should be very wide apart, at least twice the ordinary width, so that a row of Turnips could be sown alternately with a row of Potatoes. This, I am convinced, would tend very much to preserve the Potato crop. The two crops could be grown together with great advantage to each other. But suppose the disease has manifested its presence on the plant; then immediately every stem should be cut off close to the earth, and the cut surfaces sprinkled with lime or soot."

— MR. S. PARSONS, writing in the *Rural New Yorker* on WINTER PROTECTION, remarks—"A strong temptation to cover up plants for winter presents itself to the inexperienced during the first cold snaps of November. The ground is firmly frozen, and now it seems natural to suppose the time for winter covering has arrived, but there never was a greater mistake. Such early spells of cold usually last but a short time, and may be succeeded by much warm weather, thus exciting the sap of the plant under cover, and thereby exposing it to injury from a succeeding heavy frost. The hardening-off process is as necessary to the plant in the open ground as under a proper system of greenhouse culture. Several really cold periods in early winter brought to bear on the uncovered plant serve to prepare and adapt it for the endurance of subsequent hardships. Little injury, moreover, occurs from cold in December to any tolerably hardy plant. It is the proper season of rest, and the diminished power of the sun works the less damage because dawn and midday present no such violent contrasts of temperature as are wont to appear in early spring. A large majority of all plants that die from the effects of cold, die, therefore, in March and April, and hence the danger of removing covering too early in spring."

— "F. W. B." writes in "The Gardener" on VEGETABLE MARROW PRESERVE:—"When in a provision shop, a few evenings ago, I observed that several poor persons bought in small quantities a kind of mixed preserve of a questionable character, which, although flavoured with essence of Raspberry, looked as if compounded of Beetroot and molasses: this was purchased freely at 6d. per lb. Acting upon this hint, I determined to do my best to arrive at some near estimate of the cost of manufacturing fairly good Vegetable Marrow preserve. The constituents were as follows:—A good-sized Marrow, costing 3d., when peeled and freed from the seed vessels, gave 5 lbs. of usable material; to this were added 3 lbs. of loaf sugar at a cost of 1s., and a Lemon and spoonful of ground ginger at a cost of 3d., making a total cost of 1s. 6d. This mixture, boiled nearly two hours, gave us a most pleasant and wholesome preserve, just $5\frac{1}{2}$ lbs., at a cost of about $3\frac{1}{2}$ d. per lb. Of course this does not include labour or firing, but that in the present case was almost too small to be included. What I want to show, however, is this, that I can manufacture an article such as my family and friends pronounce to be excellent for $3\frac{1}{2}$ d. per lb." The Marrows should be nearly full grown for preserving.

NOTES ON VILLA AND SUBURBAN GARDENING.

CHRYSANTHEMUMS are favourite flowers of many a villa gardener, and are admirably grown by amateurs in the vicinity of the metropolis, indeed London may be said to be the head quarters of this queen of autumnal flowers. The well-known and far-famed Temple Gardens give an impetus to Chrysanthemum culture, and the numerous exhibitions springing up around us speak well for the increasing popularity of this useful flower, which is in beauty at a time when flowers are becoming scarce. It spans the passing season of outdoor bloom with the forcing season of indoor display, and makes our conservatories for six weeks exceedingly attractive; indeed there is no other flower which repays the cultivator better than the Chrysanthemum.

Now is the time to commence operations for a good display of well-formed flowers next autumn; but cuttings can be struck at any time from now till May and make useful plants, yet those taken off now while they are short and stubby, and inserted in light sandy soil around the sides of some 60-sized pots, will strike very readily. When sufficient are taken off the old plants can be either planted out or thrown away. The pots will be found useful for other plants, and the stock is reduced to the smallest possible space.

The best cuttings are those thrown up from the base of the

plant, and they can generally be attached with a small particle of root, which is an advantage. If these cuttings when inserted are placed in a cold frame they will keep quite healthy and very few will damp off. We prefer at this season of the year placing them in a cold frame rather than inciting them by fire heat, unless it be for the purpose of growing very large specimens. After the cuttings are inserted they should be kept tolerably close, but afterwards air must be given on all favourable opportunities, and on very fine days removing the lights altogether. Protection is required during frosty nights, otherwise the soil would become frozen and would injure the tender rootlets. The after-treatment of this flower will be referred to in future calendars. The following forty varieties are the best both for exhibition purposes and home decoration. *Incurved*—Antonelli, Alfred Salter, Aurea Multiflora, †Barbara, Beethoven, Bronze Jardin des Plantes, Beauty of Stoke Newington, Cherub, †Eve, †Empress of India, †General Bainbrigge, Guernsey Nugget, Gloria Mundi, †Golden Beverley, †Golden Empress of India, †Golden Eagle, Golden John Salter, Doctor Brock, †Isabella Bost, †Jardin des Plantes, †John Salter, †Lady Hardinge, Lady Talfourd, Lady Slade, Miss Mary Morgan, Mr. Brunlees, Mr. Gladstone, †George Glenny, †Mrs. G. Rundle, †Mrs. Dixon, †Mrs. Heale, †Mrs. Haliburton, †Prince Alfred, †Prince of Wales, †Princess of Wales, †Princess of Teck, †Queen of England, Venus, †White Venus, †White Globe, and †White Beverley. The best twenty-four are those marked by a dagger (†). Of the reflexed varieties *Triomphe de Nord*, *Progne*, *Alma*, *Hereward*, *Dr. Sharp*, *Cloth of Gold*, *Christine*, *Crimson Velvet*, and *Julie Lagravère* are all worth growing, and the following will be found the best of the large-flowering *Anemone* varieties:—*Acquisition*, *Bijou*, *Empress*, *Fleur de Marie*, *Prince of Anemones*, *Lady Margaret*, *Gluck*, *Mrs. Pethers*, *George Sand*, and *Louis Bonamy*.

The Japanese section is increasing in favour, and for house decoration and cutting purposes they surpass the incurved varieties. A very good and useful selection is as follows:—†*Elaine*, †*James Salter*, †*Fair Maid of Guernsey*, †*Gloire de Toulouse*, †*Red Dragon*, †*Bronze Dragon*, †*Yellow Dragon*, *The Sultan*, †*The Mikado*, *Garnet*, *Chang*, *Baronne de Prailly*, *Magnum Bonum*, †*Fulton*, †*Fulgore*, *La Nymph*, *Nuit d'Hiver*, *Laciniatum*, *Cry Kung*, *Bismarck*, *Oracle*, †*Meg Merrilees*, *Peter the Great*, †*Grandiflora*, and *The Wizard*. The best twelve varieties are denoted by a dagger (†).

Of Pompons *Antonius*, *Cedo Nulli*, *Golden Cedo Nulli*, *Bob*, *Madame Eugène Domage*, *Marabout*, *Mdlle. Marthe*, *Madame Montels*, *Model of Perfection*, *Miss Nightingale*, *Mr. Astie*, *Marie Stuart*, *Firefly*, *Dick Turpin*, *Miss Julia*, *St. Michael*, *Calliope*, and *White Trevenna* are varieties of proved excellence. —J. W. MOORMAN.

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

HARDY FRUIT GARDEN.

We are still working amongst standards and dwarf-trained trees and bushes, pruning them and digging amongst Raspberry bushes after dressing the ground with good manure. Digging amongst the roots of fruit trees requires to be done with care; a careless workman will probably do more harm than good, and one not acquainted with the nature and requirements of the trees or bushes should not be trusted amongst them. Take Raspberry bushes, for instance. A good dressing of manure has been spread over the surface. The rows are 4 feet apart, but round each plant there is a mass of fibrous roots quite close to the surface. Our plan is to take an opening out at one end of the row, and the centre 2 feet is dug out one spit deep, merely stirring up the soil round the plants and mixing it with a little good manure, the largest portion of the manure being buried in the centre. Gooseberry and Currant bushes also require a good supply of manure, and it ought to be dug in much in the same way. If the Gooseberry bushes were infested with the caterpillar during the growing season it will be necessary to pare off about 3 inches of the surface of the soil under the bushes, and bury it about a foot deep in the centre of the rows. The soil from the bottom ought to be spread under the bushes, and this, of course, will be free from eggs of the caterpillars.

When the weather is favourable the work ought to be proceeded with on walls. A man may be able to prune with a pair of gloves when the weather is cold, but nailing should not be proceeded with when the thermometer falls below the freezing point. Plum, Pear, and Cherry trees are done first. It is best to attend to such work as soon as possible; indeed all sorts of work require to be brought forward, whether it is nailing, pruning, or digging; severe weather may set in and put a stop to the whole until February or March.

PEACH HOUSES.

The late houses may be prepared for starting by taking the trees down from the trelliswork and tying the growths up in bundles. This is done purposely to prevent the flower buds from being rubbed off when the glass and woodwork are being

cleaned with weak soapy water. We have seen gardeners doing such work with old shading or other rags that come first to hand; this is not economy even, and the work cannot be well done. The best material to use is washleather, and the wood or glass can be rubbed clean and dry with this as the work proceeds. The walls should first be well scrubbed with clean water and then be done over with limewash. We have used for this two parts of lime fresh from the kiln and one part of flowers of sulphur; it should be laid on while hot, as in this state it is sure to effectually destroy eggs of insects or the insects themselves, which find a lurking place in the crevices. After the house has been made clean the trees must be dressed, and it may even be necessary to wash them carefully first, especially if there has been any scale upon the young wood. This pest can easily be removed by washing it off with a sponge. The mixture that we use to dress the trees is composed of sulphur dissolved in soapy water, and to it is added a little tobacco water; a large wineglassful to a quart is sufficient, as the stuff is strong. In applying it to the main branches it should be scrubbed well into the interstices of the bark; the small branches containing buds should be done carefully, as the buds are easily rubbed off.

The border next claims attention, and our experience goes to prove that a hard surface is better for the trees than a loose one, but it depends something on the character of the soil whether it becomes firm or not. In a loose soil no roots will be found close to the surface, while a firm surface composed of good clayey loam will be found interlaced with healthy roots. If there are plenty of healthy roots near the surface we remove as much of the soil as possible without doing them any injury, then place a layer of rich decayed manure about 2 inches over the surface, and over this some good turfy loam. We have previously alluded to the danger of allowing the borders to become too dry, as the blossoms will probably drop. Another cause of the flowers falling off instead of setting is the mixture with which the trees are dressed being too strong. What would not cause the least injury to Vines would utterly ruin the prospects of a crop of Peaches.

GREENHOUSE AND CONSERVATORY.

The *Chrysanthemums* are still beautifully in flower, and they will probably keep the house gay until the new year. They were later to flower, and the blooms are lasting longer in beauty this year than usual. The usual time to take cuttings is in the spring, when they are growing freely; the succulent tops are cut off and the cuttings inserted in small pots; they will be rooted plants in a few days if the pots are placed in a frame with a brisk bottom heat. Another plan is to place the cuttings in cold frames, merely plunging the pots in cocoa-nut fibre refuse. We have seen many good flowers in the neighbourhood of London during the last dozen years, but we are not sure that they have been superior if equal to those grown in Scotland twenty years ago by Mr. Laing of Dysart, Fifeshire, now of Stanstead Park, Forest Hill. Mr. Laing's plan was to insert the cuttings in December and strike them in cold frames; he placed one cutting in the centre of a 60-sized pot, and when they were well rooted, say in April, he potted three plants in a 15-inch pot and took about three flowers from each plant. His compost was good turfy loam and decayed stable manure with pounded oyster shells, which kept the compost open; it is also a good plan to drain the pots with oyster shells.

Hardwooded plants that flower at this season are very valuable. Camellias, of course, are in all collections of greenhouse plants, and if they have been treated as recommended in summer there will now be plenty of flowers. The Double White and Fimbriata are the finest and most useful of all, but many of the coloured sorts are used where the white would not answer. It may be necessary to look over the plants to wash the leaves if they are black on the upper sides with a gummy substance, caused by scale; this is easily removed by a sponge and soapy water.

Epacris of sorts are extremely useful from now till March, and even to midsummer, but by that time other flowers are plentiful, and they are not held in so much esteem. We have *E. miniata splendens* and *E. Eclipse* in flower now, and they have produced occasional sprays since midsummer. The rose and white-flowered varieties of *E. hyacinthiflora* are our most valued flowers in winter; but there are many others, each distinct and good in their several varieties. The winter-flowering Heaths comprise the section *E. hyemalis* and the very pretty *E. melanthera*, its graceful sprays of small white flowers are very pretty in small glasses. When time can be spared we are training hardwooded specimens of Cape Heaths and New Holland plants, and no one can attain to success in this who does not study the natural habit of the plants themselves. Our large exhibitions ought to be one place where this could be done, but it is not so; even the first-prize collections have contained plants far too severely trained to show anything like the natural habit of the plants. A good rule to go by is to use as few sticks and ties as possible, and if the plants can be trained into shape without them it will be much more satisfactory.

Stage Pelargoniums are growing freely since they were potted into the blooming pots. We have fastened a string under the

rim of the pots and tied down the growths to this. Where they were too thickly placed they have been thinned out.

FLORIST FLOWERS.

The damp muggy weather is very unfavourable to the growth of Auriculas. The season of rest has come, and the lights are removed on every favourable occasion, and air is also admitted at night. What we want now is a succession of frosts to bring on that natural rest required by the plants. It is necessary to look over the plants once a-week at least and remove the decaying leaves. Now is the time to get rid of green fly, either by fumigating with tobacco smoke or brushing them off with a small camel-hair pencil. Carnations and Picotees require very similar attention, and, like the Auriculas, the plants are making rather too much growth. Occasionally we stir the surface soil of the pots and remove the dead leaves. Considerable care is necessary as regards watering. The plants suffer if allowed to become too dry, and on the other hand if they are saturated with wet the leaves become yellow and the plants will not produce good flowers. Injury is also caused by drip. If this cannot be stopped the plants must be removed from underneath the place, else they will be much injured, probably killed. Pinks and Pansies in beds are growing very freely, and, the ground being saturated with wet, a sharp frost setting in would throw many of them out of the ground, but a mulching of manure prevents this. Choice Hollyhocks in frames are apt to be injured by damp. Mould gathers on the injured portions and spreads rapidly if it is not removed and the decayed part dusted with lime. Dahlias should also be examined to see if there is any damp or mould near the base of the old stem, which sometimes spreads to the tubers. A vigilant eye is required to look over all classes of these plants. Admit air freely on all occasions, and do not allow decay to remain on any plants, nor weeds or green mould on the pots or surface of the soil.—J. DOUGLAS.

TRADE CATALOGUES RECEIVED.

James Dickson & Sons, Newton Nurseries, Chester.—*Catalogue of Forest Trees, Covert and Underwood Plants, Ornamental Trees, Evergreens, &c.*

W. Lovel, Weaverthorpe, York.—*List of Strawberry Plants.* Dicksons & Co., 1, Waterloo Place, Edinburgh.—*Catalogue of Forest and Ornamental Trees and Shrubs, Conifera, Rhododendrons, &c.*

Ant. Roosen & Son, Overveen, near Haarlem, Holland.—*Catalogue of New Gladioli and Dahlias, with list of Miscellaneous Plants and Bulbs.*

Ernest Benary, Erfurt, Germany.—*General Trade Catalogue of Vegetable, Agricultural, Flower, and Tree Seeds.*

Putz & Roes (successors of Ferdinand Jühlke), Erfurt, Germany, and 50, Great Russell Street, London.—*Annual List of Flower, Shrub, and Tree Seeds.*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

FRUIT MANUAL (*Rus in Urbe*).—It does not contain the classification.

CHRYSANTHEMUMS (*H. A. L.*).—A list is detailed on page 428.

PEAR LA QUINTINIE (*F. J.*).—We have had no experience of this variety in this country.

CUCUMBERS DISEASED (*G. P., Devon*).—There was not the least trace of disease on the leaves sent. Portions of them seemed to be scorched. We have seen the same appearance on the leaves in winter when the atmosphere was overmoist. If you follow directions in "Doings of the Last Week" you will succeed. Also omit the "weeds and garden refuse" from your compost. The temperature at night should be from 65° to 70°.

CULTURE OF OUTDOOR GRAPES (*G. C.*).—The plan you have adopted is an excellent one. We have seen your plan before, and highly approve of it. Follow it out and let us know how you succeed.

PEARS FOR WALL FACING NORTH-WEST (*Amateur*).—In your district Pears might succeed. Louise Bonne of Jersey and Marie Louise would be the best. The best Grapes for your purpose would be Royal Muscadine and Black Hamburgs.

CULTURE OF BOUTARDIAS (*G. S.*).—These plants are as easily grown as Pelargoniums, and they do well in the cold compost as Pelargoniums are usually potted in. We grow them in cold frames all the summer and remove them to the greenhouse in September. Ours are now in fine flower.

PRIVET HEDGE PRUNING (*M. B.*).—The best time for pruning this hedge is early in the spring.

PINE APPLE CULTURE (*P. A.*).—"The Pine Apple Manual." You can have it free by post from our office if you enclose thirty-two postage stamps with your address.

NAMES OF ROSES (*W. S.*).—It would be of no avail to spell the names phonetically. The only practical mode of ascertaining the proper pronunciation is to apply to an educated cultivator of the flower.

NAMES OF CHRYSANTHEMUMS (*Constant Reader*).—See "Notes on Villa Gardening" on page 461.

MUSHROOM HOUSE MANAGEMENT (*J. L.*).—A steady temperature of 55° is quite enough for Mushrooms in winter, 5° higher is a maximum which we should not much like to reach—certainly not to exceed, and you are probably right in attributing the loss of your young Mushrooms to the parching effects of excessive heat. There are, however, other causes of failure which may or may not have some bearing on your case; neglecting to water till the surface becomes so dry as to throw off the water when it is given; using water of a lower temperature than that of the bed; watering with warm water and letting in a cutting draught of air immediately afterwards, are all fertile causes of failure, especially at this season of the year.

WINTERING SEDUMS (*S. H.*).—The Sedums in your list are quite hardy, and in well-drained, light, gritty soil they may be left fully exposed throughout the year, but in low-lying, damp, heavy soils they are often killed by a few degrees of frost, continued cold and wet being fatal to them. Let this be your guide, and if you have any doubts as to the nature of your soil, give the Sedums the benefit of it by taking them up and planting thickly in coal ashes in a cold frame from which the glass lights are withdrawn except in very wet and frosty weather.

WATERING AZALEAS (*A. A. M.*).—By all means water your Azaleas regularly or you will lose the flower buds, but do not syringe at this dull season of the year. Soot may be used upon the surface of the soil. Cow-dung water does most good if given when the plants are growing freely, and especially when the flower buds start into growth in spring. Now, while the plants are comparatively quiescent, clear water is best.

LIQUID MANURE FOR STRAWBERRIES (*Idem*).—Any rich fertiliser in a liquid state may be given advantageously to Strawberries in pots during the process of forcing till the fruit shows colour, when it must be discontinued. House sewage is one of our best manures, and if enough of it can be had we should really regard an outlay for guano or any similar prepared substances quite unnecessary.

CHILD OF HALE GRAPE (*R. C.*).—It is not a Grape worth growing under glass in this country whatever it may be abroad.

NAMES OF FRUITS (*B. A. H.*).—1, Wyken Pippin; 2, Flat Nonpareil; 3, Yellow Ingestria. (*Edward Sheerman*).—1, Beauchampwell; 2, Hanwell Souring; 5, Hanthouse; 6, Bedfordshire Foundling; 7, Greaves' Pippin.

NAMES OF PLANTS (*F. B. H.*).—It is impossible to name your plant from the specimen sent. (*P. P.*).—1, *Dufoutania spinosa*; other specimens insufficient. (*T. Cleary*).—Apparently *Tradescantia discolor*. (*Suzzer Gardener*).—1, *Adiantum cuneatum*; 2, *Lomaria* sp.; 4, *Peperomia arifolia*, var. *argyrea* (*Bot. Mag.*, t. 5634); 6, *Justicia* sp. (*Stirling*).—*Tricyrtis hirta*. (*Mrs. Day*).—*Lygodium scandens*. It is a native of the East Indies.

POULTRY, BEE, AND PIGEON CHRONICLE.

GUILDFORD POULTRY SHOW.

This Show opened on the 10th inst., and was held in the Green Market. It was a capital meeting, and the quality of the birds was good all round. The pens were Turner's, and the chaff in them, with the feeding arrangements, were all good.

Dorkings opened the list, as in Surrey they should do, and twenty-three pens of more than average quality competed. The cup went to a fine pair of Coloured chickens, good in bone, claws, and comb; second were fine Silver-Greys. In the next class a pair of large Coloured Rose-combs were first; second and third were good Coloured chickens. In Whites the winners were excellent, the cockerel being, we believe, the bird first at Oakham, with a great square-bodied hen. In Cuckoos the first-prize pen was the only pen really Cuckoo-coloured all over, and we do not think they had a white feather in them, while the remainder of the class, though large birds, had a great deal of white in parts of their bodies. In *Cochins* a good pen of Whites were first and pretty Buffs second, while Partridges had third place. Dark *Brahmas* were only moderate, and the Lights, though few, were of fair quality. Of *Spanish* only one pen appeared, which were but of average merit. The Game made a large class, and to the first-prize pen was awarded the section cup. They were smart and stylish Black Red chickens, and cheap at catalogue price of £5 5s. Second were also good Black Reds, and third Brown Reds. In the *French* class a good pair of Crêves were first and moderate Houdans second. The Golden-pencilled *Hamburgs* were excellent, and the winning cockerel of Mr. Cresswell's was of that beautiful bright colour we so much admire, and was mated with a Birmingham winner, and they ran the Game closely for second section cup. In the Variety class Gold Polands were first and Silbies second. The Game Bantams were good. A pretty pen of Brown Reds won first, and Black Reds were second, Piles being third; while in the variety Bantam class Blacks were first and a pretty pen of Nankins second, the cockerel one of the best we ever saw of the breed.

The *Waterfowl* were only of average quality, but the *Geese* and *Turkeys* were excellent. The first adult *Turkeys* weighed 48 lbs., and the second 42 lbs., while in poults the first were 38 lbs. in weight and the second 35 lbs.

The *Pigeons* were all in a mixed class; the quality was extremely good, and forty pens competed. First went to capital White Fantails, the Weymouth winners we heard; second were Yellow Turbids, third lustrous Archangels, fourth Black Barbs, fifth Black Barbs, sixth Black Carriers, and seventh Black Trumpeters, while many other good pens came in for cards.

We thought it an excellent county Show, and hope the attendance on the second day was good.

POULTRY.—DORKINGS.—Coloured and Silver.—1 and 3, O. E. Cresswell. 2,

G. Ellis. *Chickens*.—Cup and 2, O. E. Cresswell. 3, J. Ivory & Sons. *White*.—1 and 2, O. E. Cresswell. 3, G. Allen. *Blue*.—1, J. L. Playfoot. 2, W. Philips. *Cochins*.—1 and 2, Rev. J. Buckmaster. 3, T. W. Anns. *Brahmas*.—*Dark*.—1, H. Glover. 2, Rev. G. W. Joyce. 3, Rev. J. D. Peake. *Light*.—1 and 2, J. Bradshaw. 3, R. D. Anderson. *Spanish*.—1, A. Critchett. *Game*.—Cup and 2, E. Haines. 3 and *vhc*, J. Knight. *Houdans* or *CRAY-COCHINS*.—1, Rev. G. Chilton. 2, Mrs. A. Dundas. *Hamburghs*.—1 and 2, O. E. Cresswell. 3, Miss F. A. Paget. *vhc*, J. L. Playfoot. *ANY OTHER VARIETY*.—1, J. Chuter. 2, O. F. Cresswell. 3, R. J. Brewer. *Bantams*.—*Game*.—Cup, V. Sandford. 2, Rev. G. Chilton. 3 and *vhc*, T. W. Anns. *Any other variety*.—1, 2, and 3, O. E. Cresswell. *vhc*, T. W. Anns. *Ducks*.—*Aylesbury* or *Rouen*.—1, J. Ivory & Sons. 2, J. W. Webster. 3, J. W. Taylor. *Any other variety*.—2, A. & J. Wells. 3, T. Drevitt & Son. *Geese*.—1 and 3, J. W. Taylor. 2, T. Baker. *Goslings*.—1, J. W. Taylor. 2, W. Drevitt. *Turkeys*.—1, G. H. Langford. 2, O. E. Cresswell. 3, Countess of Lovelace. *Young*.—1 and 3, F. E. Bunting. 2, O. E. Cresswell. *SELLING CLASS*.—1, Rev. J. Buckmaster. 2, G. Ellis. 3, F. R. Jackson. *PIGONS*.—*ANY VARIETY*.—1, 2, 3, and 5, O. E. Cresswell. 4, Burdett and Walker. 6, B. White. 7, J. Bakewell. *vhc*, W. Bakewell, jun., C. Fannell.

The Judge was the Rev. R. S. S. Woodgate.

WATFORD POULTRY SHOW.

THE annual poultry Show in connection with the West Herts Agricultural Society was held on the 10th and 11th inst. in the Agricultural Hall at Watford. Few buildings equal this noble Hall for exhibition purposes, and we were glad to notice that the public appreciated the poultry as well as the larger animals, particularly as the quality of the birds shown was decidedly in advance of previous years.

In the *Dorkings* classes the cup for the best pen went to the Rev. E. Bartum; his second-prize birds were said to be those that divided the cup and second prize with Mr. Taylor at the recent Dorking Show; the beautiful condition and fine carriage of the cockerel in the cup pen probably telling with the Judge. In the *Partridge Cochins* classes the first and second-prize birds were very fair, the third-prize poor. In Any other variety the prizes all went to moderate Buffs. A pen of White highly commended were, as we thought, better than the third. The awards among *Dark Brahmas* seemed very satisfactory; in this class some excellent birds were shown. The *Light Brahmas* were a good class, old birds taking the prizes; but Mr. How's pen, No. 32, should have taken second, they being a capital pen of young birds. The *Game* were only moderate, excepting the second-prize birds, which showed the best style. Although not in full plumage, to our mind this pen far surpassed the cup-winners. The *Hamburgh* classes contained some good birds, and the judging was unexceptionable. We could not see, however, why the Judge awarded the champion cup of an agricultural show to a moderate pen of Golden-spangled *Hamburghs* when Mr. Bartum's *Dorkings* were far ahead of them. In such a show *Dorkings* or *Asiaties* should have the preference. The *Bantam* cup went to a pair of White Booted in good condition, but as regards quality we preferred either the first-prize Black Red or second-prize Golden Laced. The remaining classes were fairly filled with good specimens, particularly the *Turkeys*.

The number of entries was 173, seven pens were empty, and, strange to say, no less than 143 were noticed!

POULTRY.—*DORKINGS*.—*Coloured*.—1, Cup, and 2, Rev. E. Bartum. 3, Lord Chesham. *White or Silver*.—1, C. Shewing. 2, Rev. H. Peel. *Cochins*.—*Partridge*.—1, Cup, and 3, G. B. C. Breese. 3, Lord Chesham. *Any other variety*.—1, G. B. C. Breese. 2, J. Long. 3, J. Allen. *Brahmas*.—*Dark*.—1, G. B. C. Breese. 2, J. Long. 3, W. J. Jervis. *Light*.—1 and Cup, G. B. C. Breese. 2, H. Mitchell. 3, J. Long. *Game*.—1 and Cup, G. Bentley. 2, H. How. 3, Lord Grimston. *Hamburghs*.—*Spangled*.—1, Cup, and 3, J. Long. 2, G. Bentley. *Pencilled*.—1, J. Long. 2, S. Robins. 3, Lord Grimston. *Bantams*.—*Game*.—1 and 3, W. Boucher. 2, J. Long. *Any other variety*.—1 and Cup, G. Bentley. 2, H. How. 3, Lord Chesham. *CRAY-COCHINS* or *HOUDANS*.—1, J. Day. 2, J. H. Brooks. 3, S. Humbert. *ANY OTHER BRED*.—1, J. Long. 2, J. Palmer. 3, P. Clutterbuck. 3, F. J. Perry. *Ducks*.—*Aylesbury*.—1, Lord Chesham. 2, P. Clutterbuck. *Rouen*.—1, P. Clutterbuck. 2 and 3, W. T. Eley. *Any other variety*.—Cup, W. J. Lloyd. 2, H. Allen. 3, H. How. *vhc*, P. Clutterbuck. *Geese*.—Cup, J. Long. 2, Mrs. T. Clutterbuck. 3, J. Thurham. *TURKEYS*.—*Norfolk and Cambridge*.—1 and Cup, Mrs. T. Clutterbuck. 2, R. Dickinson. 3, H. How. *Any other variety*.—1, W. J. Lloyd. 2, Lord Chesham. *SELLING CLASSES*.—*Pair of Hens*.—1, G. Bentley. 2, Rev. E. Bartum. 3, G. B. C. Breese. *Cock*.—1, A. Langford. 2, G. Bentley. 3, G. Heap. *Pair of Ducks*.—1, G. Bentley. 2, Lord Chesham. 3, W. J. Jervis. *Drake*.—1, Lord Chesham. 2, G. Bentley. 3, P. Clutterbuck.

The Judge was Mr. E. Hutton of Pudsey, Leeds.

CANTERBURY POULTRY SHOW.

THE annual Show of poultry, Pigeons, and Rabbits was held in the Kent County Pavilion on the 6th inst. and following days. The entries amounted to upwards of one thousand. The prize cards were very promptly placed upon the pens, and the general arrangements, thanks to a thorough business Secretary and to a most indefatigable Committee, were all that could be desired.

Dorkings, Coloured, cock and hen, only four entries. A fine pen, both birds large and well on the feet; they could have sustained their position in a much stronger competition. Second a good pair. *Cockerels*.—First a large-framed bird, but rather leggy and very crooked in the breast; second a compact bird, but behind in size. *Pullets* a fair lot. *Silver-Grey*, cock and hen.—First cock a large bird, good in colour, but bad on the feet. *Cockerels*.—Twenty-four entries. The number surprised us. First a very pretty well-grown bird, a little too long on the legs; second smaller. *Pullets* a good class. Any other colour.

—Good Whites first and second. *Cochins*, cock and hen.—First in some respects a good pen; the hen we thought a little mealy. *Cockerels* and *pullets* moderate classes. Any other variety.—First a beautiful pair of Whites, very pure in colour, but with feathers in great disorder. Second *Partridge* cock, a fair bird; the hen good in size, but behind the modern standard of pencilling. Third rather creamy Whites. *Brahmas*, cock and hen.—First an easy victory, cock grand in shape and colour, and hen well pencilled; next we preferred 122, third, but the cock had an ugly white patch on his breast, which doubtless had its weight with the Judge; second we did not like, the cock was very coarse in the head, and the hen, though well pencilled, was not quite the proper colour. Pen 117, highly commended, we fancied better. *Cockerels*.—First good in shape, well feathered in the leg and beautiful in colour; second in some points equal to the first, but he was a trifle longer on the leg, and upon close inspection we found a shade of yellow in the saddle. *Pullets*.—First good size and well pencilled; second a little light in colour; third darker and well marked, but her neck was heavy in moulting, which gave her the appearance of a twisted hackle. *Lights*, cock and hen, a moderate class. *Cockerels*.—First a good-coloured neat bird, but small; second a similar bird. *Pullets*.—First fair in size and colour, but a little hocked; second will improve. Pen 178, good in many points, but creamy. *Houdans*.—This class disappointed us very much. We have on former occasions seen classes of French fowls at Canterbury equal almost to the Crystal Palace and Birmingham, but since the death of Mr. Dring French fowls, and more particularly *Houdans*, appear to have considerably declined, and it was never more noticeable than at Canterbury; we could not find one good well-matched pen of any size or pretensions. The largest were bad on the feet or had a Dark cock mated with a Light hen. *Créves*.—Only three entries, but better than the *Houdans*. *Spanish*, old birds.—Only five entries, all badly shown, but very even in quality, and had a little trouble been taken in washing the faces of either pen the Judge's decision might have been reversed in its favour. *Cockerels* and *Pullets*.—First, both birds had a good quality of white and were shown in good condition. Our remarks with regard to the former class will apply equally to the remaining birds here. *Game*, cocks.—We did not like the winner—a Black; we thought him a coarse bird, and he appeared very crooked in the neck; second a neat stylish Brown; third very light in the eye. We preferred the second and pens 226 and 227 to any in the class. The latter pen belonged to the owner of the winners, and we think he must have been very much surprised at the choice of the Judge. *Hens*.—First a good Brown, a little rusty on the wing. *Cock* or *cockerel*, Red, bred in 1877, a moderate lot. *Cock* or *cockerel*, any other variety.—First a stylish bird, but a little coarse in tail. *Hamburghs*.—Both good classes. *Bantams*, Black Red.—First a very smart pen. Any other variety.—Fair Piles first, but we liked the third much better; the cock was neater, closer in feather, better head, and finer sickles; the hen was quite as superior. In the Any other variety nicely laced *Sebrights* were first and second, and a good pair of Japanese third. The *Rouen Duck* class was well filled, and the classes for *Turkeys* above the average in quality.

Pigeons.—*Carriers*.—In the cock class the winner had a large eye and plenty of wattle. *Hens*.—A promising young bird obtained the first place. In the class for birds bred in 1877, first a pretty bird, but we hardly thought he had sufficient stuff about him to take the cup over the winning Owl and Dragon. *Pouters* were well represented, Mr. Gill contributing some good specimens. *Barbs* were a poor lot, and the Judge might have with justice withheld all the prizes. *Almond Tumblers* almost as poor as the *Barbs*. *Jacobins* an improvement. *Dragoons*.—Winner a splendid bird, good head, and very grand colour. This with the winning hen were the only *Dragoons* worth notice. *Owls* a capital class. The winner a well-known bird of Mr. Barnes; second and third two capital-headed birds. *Foreign Owls*.—*Charming Whites* were first and second, the former very short in head. *Turbits* were a fair lot, and we thought pen 668 deserved a card. *Fantails* were also a good class. The winners were beautiful in colour and in magnificent condition. The class for *Homing Antwerp* cocks obtained fifty-four entries.

POULTRY.—*DORKINGS*.—*Coloured*.—1, E. Bartrum. 2, E. Rice. *Cockerel*.—1 and Cup, H. Brown. 2, E. Rice. 3, A. Burch. *Pullet*.—1, E. Rice. 2, W. B. T. Pattenson. 3, Rev. J. G. A. Baker. *Silver-Grey*.—1, J. Boulting. 2, Mrs. Wachter. 3, Major W. Plummer. *Cockerel*.—1, J. Boulting. 2, F. Cheesman. 3, Mrs. Wachter. *Pullet*.—1, E. A. Boissier. 2 and 3, Mrs. Wachter. *ANY OTHER VARIETY*.—1, R. A. Boissier. 2, Major W. Plummer. *COCHINS*.—*Buff*.—Cup, Mrs. A. Christy. 2, F. M. Cobb. 3, T. L. Colard. *Cockerel*.—1, E. Burrell. 2, A. Todd. 3, Mrs. W. Paxon. *Pullet*.—1, Mrs. A. Christy. 2, C. M. Stickings. 3, G. Dowker. *Any other colour*.—1, A. E. W. Darby. 2, F. W. Anns. 3, A. Todd. *Brahmas*.—*Dark*.—1 and Cup, H. Lingwood. 2, E. Ayre. 3, Miss E. Shuter. *vhc*, E. Pritchard. *Cockerel*.—1, H. Lingwood. 2, Miss E. Shuter. 3, J. Long. *Pullet*.—1, H. Lingwood. 2, L. C. C. E. Norris. 3, Miss E. Shuter. *vhc*, J. Long. *ANY OTHER VARIETY*.—1, G. W. Pether. 2, G. Dowker. 3, A. Ivo. *Cockerel*.—1, C. M. Stickings. 2, G. Dowker. 3, A. Ivo. *Pullet*.—1 and 2, G. W. Pether. 3, C. M. Stickings. *vhc*, F. B. Cobb. *SPANISH*.—1, R. Cheesman. 2, W. Hamilton. *CHICKENS*.—1, J. Wood. 2, J. Francis. *FRENCH*.—*Houdans*.—1, A. Ivo. 2, W. Howard, jun. 3, Mrs. Vallance. *CRAY-COCHINS*.—1, H. Stephens. 2, E. Burrell. 3, Miss A. Sharp. *Game*.—*Cock*.—1, F. Warde. 2, J. Knight. 3, E. J. Den. *Pullet*.—1, V. Sandford. 2, F. Warde. 3, W. Foster. *Cockerel*.—1, F. Warde. 2, V.

"B. & W." finds fault with my answers to the questions of "A KILKENNY BEE-KEEPER." He says that "Mr. Pettigrew dismisses the subject with an answer which is by no means complete, and which in fact deals slightly with the whole subject." I am quite certain that the Editors of this Journal, who are the most competent judges in this matter, will not blame me for treating slightly any question they ever sent me for answer, and the "KILKENNY BEE-KEEPER" himself has sent a letter to the Editors in which he very warmly expresses his thanks for the answers. "B. & W." does his best in answering the questions sent to him, and I do my best with those sent to me; but when all is done that we can do there is much left undone, for in every question of bee-management there are

manifold and multiform points and aspects which cannot be compressed in the limited space allowed for our answers and letters. "B. & W." says that I have frequently admitted that I do not understand the management of bar-frame hives. Surely he has misunderstood some statement of mine, and, therefore, unwittingly misrepresented my meaning. For fifteen years I have believed that there is nothing of importance connected with bar-framers which I do not understand.

One point or statement in "B. & W.'s" letter I will now notice rather prominently, for it is of great importance to bee-keepers generally. He says, "Where, as in my own case, the pasturage is scanty and unproductive, such large hives as Mr. Pettigrew's are worse than useless. I have abundantly proved it to be true." In my opinion this statement is made in a reckless manner, and is about as misleading as any statement that ever fell from the pen of a teacher, for hundreds of enlightened apirians in all parts have found that wherever honey can be obtained, large strong hives gather it faster than strong small hives.

Clever and experienced men in the bar-frame school are moving in the right direction by adopting larger sizes of hives. Their intelligence and experience will lead them onwards and upwards. If a large good hive were sent down to the worst district of Somersetshire, and there placed beside one of "B. & W.'s" smaller hives, not one of these enlightened men would believe that the large hive there "would be worse than useless." Fifty reapers can cut and gather together a poor crop of oats much sooner than twenty-five reapers can, and likewise a hive containing 50,000 bees can gather honey in any district faster than a hive containing only 30,000. I repeat what I said before, that wherever large hives are introduced and fairly managed small hives go into disrepute. Many other advocates of small hives at one time have outlived their ancient notions and prejudices, and now keep hives of larger dimensions. Probably "B. & W." will do the same some day. At any rate it is rather late in the day to convince bee-keepers that large hives are worse than useless anywhere. In the bee world there is ample scope for all teachers, for every school of thought and practice. "B. & W." has lessons to give, and I have some to give. Surely we can give those lessons without squabbling.—A. PETTIGREW.

ENLARGEMENTS OF HIVES—TAKE OF HONEY.

I HAVE to tender my thanks to Mr. Pettigrew for kindly answering my questions. His doing so was doubly interesting to me, as I have invented a system of bee-keeping rather similar to his, the main difference between them being, I work mine with frame hives of my own invention. As I am not well versed in the technicalities of bee language, I would feel obliged if Mr. Pettigrew would explain in detail what he means by eking and nadiring. I am also very anxious to know the size of his honey hives, and how many pounds of honey he would expect to get from a strong hive and its swarms in a good season.—A. KILKENNY BEE-KEEPER.

[In my answers to this gentleman's first letter the size of hives was stated. Some are 16, some 18, and some 20 inches wide, and not less than 12 inches deep. Some are deeper than 12 inches. The sizes I prefer are 16 and 18 inches wide and 14 deep. The earliest and best swarms are hived in the larger sizes, and the later swarms in the smaller. In fine seasons for honey the bees require more room, which is provided and given to them in supers, ekes, and nadirs. A nadir is simply an empty hive with a hole in its crown placed beneath a full one. The door of the full one is closed, and the bees soon commence filling the nadir with combs and brood; meanwhile almost all the store honey goes to the top hive, filling the brood cells as fast as they are emptied. By the end of good seasons the nadirs have honey enough stored in them to keep the bees through the winter. In this way both a stock and a honey hive are obtained. If your Kilkenny correspondent will put one of his own frame hives beneath a full one next spring, say about the beginning of May, he will see for himself what nadiring is; and if he put another empty frame hive on the top of both about the beginning of June, he will learn that a hive may be both nadired and supered in a season on the non-swarming system of management. Thus the nadir becomes the stock hive, while the middle hive is taken for honey and the top one for honeycomb.]

Eking is the simplest and most natural because least complicated of all modes of enlarging hives. By eking we enlarge or elongate hives, making them 4 or 6 inches deeper at a time. Riddle rims made the same width of the hives and placed beneath them is eking. Eking in Cheshire is generally called "raising," which is a very descriptive term.

In good seasons good first swarms rise in weight to 120, 130, and 150 lbs. each. Old stocks to 80 lbs. and 90 lbs. each. Second swarms to 60 lbs. and 70 lbs. each. The average weight of a hive, board, and bees, is about 20 lbs., and in estimating the quan-

tity or weight of honey in hives we not only deduct the weight of hives, board, and bees, but allow about 30 per cent. for refuse of the combs. A hive weighing 120 lbs. gross will thus yield 70 lbs. of pure honey, and the 30 lbs. of refuse will yield about 3 lbs. of wax. From 30 lbs. to 40 lbs. of honey from either stock or second swarm we consider a fair average take of honey in good seasons, and about 2 lbs. of wax.

Instead of eking our first swarms in June and July we generally super them, and in this way get about 40 lbs. of honey and a super of 30 lbs. of comb in a honey season from a first swarm. Your correspondent will now see how difficult it is to keep an apiary full of large hives, for in good seasons they become too heavy for stocks—hence they are put down for honey and run into cash. All our hives containing 30 lbs. of honey in autumn are run into cash, and the bees are housed in smaller hives, and fed into stocks at an expense per stock of 5s. each. The average annual profits of an apiary well managed is about £2 per hive.—A. PETTIGREW.]

OUR LETTER BOX.

CANARIES HIGH-COLOURED (E. W.).—Cayenne pepper mixed with their food heightens the colour of the feathers.

PIG MANAGEMENT.—An Old Subscriber would be much obliged by full directions how best to breed the pig, what sort to keep, and how to fatten.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.					Rain.
1877.	Baromet. ter at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.				
		Dry.	Wet.			Max.	Min.	In sun.	On grass.			
Dec.	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.		
We. 5	29.970	42.0	41.1	N.	43.2	44.3	40.2	47.9	38.6	0.222		
Th. 6	29.511	45.2	44.6	S.	43.2	54.2	40.8	60.5	39.2	0.028		
Fri. 7	29.932	40.8	39.0	W.	43.9	43.1	39.2	54.3	33.2	0.110		
Sat. 8	30.178	37.1	36.0	W.	42.9	46.8	35.2	63.6	30.3	—		
Sun. 9	30.222	45.4	43.0	S.	42.4	48.8	36.7	61.8	31.2	—		
Mo. 10	29.970	35.7	35.4	S.W.	42.0	40.7	31.9	41.6	26.1	—		
Tu. 11	30.074	34.4	34.3	W.	40.9	40.8	29.6	42.7	25.7	0.100		
Means	29.980	40.0	39.1		42.6	46.2	36.2	53.6	30.9	0.460		

REMARKS.

- 5th.—Damp day, sky a little clearer at times, but rain at night.
6th.—Dark wet morning, finer after 11 A.M., with sunshine; clear starlight night.
7th.—Fine fresh morning, but dull and rainy after 3 P.M.
8th.—Fine dry day, with several hours' sunshine.
9th.—Fine and bright throughout.
10th.—Foggy in morning, dry pleasant day, but no sunshine; clear night.
11th.—Very foggy early, and slightly thick during the day.
Drier, finer, and slightly cooler than previous weeks.—G. J. SYMONS.

COVENT GARDEN MARKET.—DECEMBER 12.

OUR market is now very bare of Pears. The supply of foreign fruit having considerably fallen off we are now feeling the effects of the light crop of home produce. Late-keeping Apples, such as Blenheim, Wellingtons, and Kings, though light, are only making average prices, but late sorts bid fair to fetch their value owing to the indifferent supply of American fruit this year. Late Grapes—such as Alicante, Lady Downe's, and Gros Colman—are in good supply, but Black Hamburgs are nearly out of our market.

FRUIT.

	s.	d.	s. d.		s.	d.	s. d.
Apples.....	½ sieve	2	6 to 5	Melons.....	each	0	0 to 0
Apricots.....	dozen	0	0 0	Nectarines.....	dozen	0	0 0
Chestnuts.....	bushel	10	0 20	Oranges.....	£ 100	3	0 10
Currants.....	½ sieve	0	0 0	Peaches.....	dozen	0	0 0
Black.....	½ sieve	0	0 0	Pears, kitchen.....	dozen	1	0 3
Figs.....	dozen	0	0 0	dessert.....	dozen	2	0 6
Filberts.....	lb.	6	0 8	Pine Apples.....	lb.	1	6 5
Cobs.....	lb.	6	0 9	Plums.....	½ sieve	0	0 0
Gooseberries.....	½ bushel	0	0 0	Raspberries.....	lb.	0	0 0
Grapes, hothouse.....	lb.	1	6 8	Walnuts.....	bushel	5	0 8
Lemons.....	£ 100	6	0 10	ditto.....	£ 100	0	0 0

VEGETABLES.

	s.	d.	s. d.		s.	d.	s. d.
Artichokes.....	dozen	2	0 to 4	Mushrooms....	pottle	1	6 0
Beans, Kidney forced.....	£ 100	2	0 1	Mustard & Cress	punnet	0	2 0
Beet, Red.....	dozen	1	6 3	Onions.....	bushel	2	6 3
Broccoli.....	bundle	0	9 1	pickling.....	quart	0	4 0
Brussels Sprouts.....	½ sieve	2	6 0	Parsley.... doz.	bunches	2	0 0
Cabbage.....	dozen	1	0 2	Parsnips.....	dozen	0	0 0
Carrots.....	bunch	4	0 6	Peas.....	quart	0	0 0
Capsicums.....	£ 100	1	6 2	Potatoes.....	bushel	3	6 6
Cauliflowers.....	dozen	2	0 1	Kidney.....	bushel	5	0 7
Celery.....	bundle	1	6 2	Radishes.... doz.	bunches	1	0 1
Coleworts.....	bunches	2	0 4	Rhubarb.....	bundle	0	6 1
Cucumbers.....	each	1	0 1	Salsafy.....	bundle	0	9 1
Endive.....	dozen	1	0 2	Scorzoneria.....	bundle	1	0 0
Fennel.....	bunch	0	3 0	Seakale.....	basket	2	0 2
Garlic.....	lb.	6	0 6	Shallots.....	lb.	0	8 0
Herbs.....	bunch	0	2 0	Spinach.....	bushel	2	6 4
Lettuce.....	dozen	1	0 0	Turnips.....	bunch	0	8 0
Leeks.....	bunch	0	2 0	Veg. Marrows..	each	0	0 0

WEEKLY CALENDAR.

Day of Month	Day of Week	DECEMBER 20—26, 1877.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year
			Day.	Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.			
20	Th	Sale of Orchids at Stevens's Rooms.	44.1	33.5	38.9	8	6	3	50	3	27	8	31	17	2	854
21	F	ST. THOMAS.	44.1	34.0	39.0	8	6	3	51	4	45	9	22	1	32	355
22	S		45.0	32.5	38.7	8	7	3	51	6	18	9	58	18	1	356
23	SUN	4 SUNDAY IN ADVENT.	44.1	31.7	37.9	8	7	3	52	7	43	10	24	19	0	357
24	M		44.0	31.3	37.6	8	8	3	52	9	11	10	43	20	0	358
25	Tu	CHRISTMAS DAY.	43.4	29.4	36.4	8	8	3	53	10	37	10	58	21	before	359
26	W	ST. STEPHEN. Bank Holiday.	43.2	31.4	37.5	8	8	3	54	Morn.	11	12	22	0	57	360

From observations taken near London during forty-three years, the average day temperature of the week is 43.9°; and its night temperature 33.4°.

KITCHEN-GARDEN NOTES.



EXCEPTIONALLY cold and prolonged wet weather has not been without its effect upon kitchen-garden crops, all of which have suffered more or less from the inclemency of the weather.

POTATOES were late. The early crops were not particularly large, but good in quality, and free from disease up to the middle of August, after which the murrain became very virulent both in the earlies and second early varieties, they with the late kinds being fully three-quarters diseased, and in some instances, particularly in rich and moist soil, scarcely affording the quantity of sound tubers equal to the seed. The best early was Veitch's Ashleaf, good alike for forcing or outdoors. Early White Kidney (Fenn) is a capital sort, forcing well and cropping heavily. I have tried most early round sorts, but have not found one at all equal to the kidney kinds either in earliness, quality, or productiveness. The best second early was the old Lapstone, it cropped heavily, and was of superior quality. In second early round kinds Rector of Woodstock bore-off the palm, and Snowflake was excellent both as to quality and produce. Those were the best out of over twenty kinds which had been selected from that number multiplied by ten. The kinds named are the very cream of garden Potatoes, quality and productiveness considered.

PEAS.—Late, but excellent up to September. We did not gather until June 28th from William I., an excellent sort, and from Shah, which is a wrinkled Marrow, a few days later. It is a good cropping variety, about 2½ feet high, and of superior quality. First and Best proved very good, and is one of the hardiest and most useful of the first earlies, though for quality I prefer William I. Alpha did not do so well as usual; it, as Mr. Taylor states, is not so hardy as some of the first and second earlies. Dr. Hogg far excelled Alpha as a second early, and proved first-rate. Dr. Maclean did the best of any Pea grown this year, and I esteem it the best of all Peas for quality and crop. Standard gave a heavy crop of well-filled pods of peas of exquisite flavour; but its constitution does not appear of the hardiest. Marvel had a superior crop of the highest quality. That good old sort Veitch's Perfection showed what it could do in a wet cold season; it cropped well and continued bearing for a long time. It is still one of the very best Peas grown. Fillbasket produced an immense crop, but the peas were said to be old when in reality they were not so old as Dr. Maclean and Veitch's Perfection by several days. It does not boil well, and is sure to be rejected when the wrinkled peas of the same age are pitted against it. Prince of Wales (Dwarf Prolific) yielded to none in profusion and quality. G. F. Wilson was not good this cold wet season; its pods were short and badly filled; and Omega was little better. Premier, preceded by Best-of-All, were both excellent. Supplanter produced its immense pods sparingly, and they were not very well filled. Of the above, which

vary from 3 to 4 feet in height, I should select, were I stunted to three kinds, William I., Dr. Maclean, and Omega or Veitch's Perfection, the first two named being the best for producing early and successive crops throughout the season if only two kinds are required. Amongst taller-growing sorts Culverwell's Prolific Marrow grew 8 to 9 feet high, and gave a quantity of its rather short well-filled pods of very large peas of unsurpassed quality. Ne Plus Ultra grew rank; the wet was too much for this very excellent late kind, which was not so good as usual; indeed we ceased gathering peas daily after the 16th of September, and the last dish was obtained on October 12th. The parallel between this year and last as to late Peas was very marked, both summers having been cold and wet.

BROAD BEANS were tardy in growth, and blanks prevailed in the early crops in consequence of the weak germinating power of the seed. The late crops that should have come in in September were failures owing to excessive wet which prevailed at the flowering period. Seville Long-pod must be pronounced a failure in the north; it is a scanty cropper, and its long pods tell very little as compared for productiveness with Early Long-pod, which is quite as early. Monarch is a very superior kind, and a true stock of the Improved Windsor is not yet surpassed.

DWARF KIDNEY BEANS.—With too much wet and without warmth they came to little. Osborn's New Forcing was the best; but when forced, and also for the early crops outdoors, Williams's Early Prolific was good, and produced longer pods. Negro Long-podded fully sustained its character as a good main and late sort, as did Canadian Wonder; but all were very much below an average yield.

RUNNER BEANS were not equal to a quarter of their usual productiveness. Scarlet Champion was surpassed by a new kind which I had for trial with white flowers and white ripe seed. Premier Runner I have grown during several years, and though it is very prolific it is not in favour at table. Mont d'Or Butter Beans have failed; they require a warmer season than has this year been experienced in the north.

CAULIFLOWERS have been superb, none surpassing Walcheren; indeed none other need be grown for affording a succession from June to December inclusive. Veitch's Self-protecting Autumn Broccoli is, however, a hardier and excellent late kind.

CABBAGES.—It has been a good season for all these. They started slowly, but afterwards grew luxuriantly. Heartwell Cabbage sown in spring has given and is giving grand heads now, very tender and deliciously flavoured. There will be no scarcity of Winter Greens, and though Savoys may be somewhat small in size they are very firm. Hill's Incomparable, and Wheeler's Cocoa-nut, with Heartwell (Carter), I consider the best of Cabbages for spring, summer, or autumn. In Savoys Drumhead is good, but not so hardy as Green Curled. Brussels Sprouts are shorter than usual, but the sprouts are unusually compact. The kind grown is Scrymger's Giant. I sow

late in March or early in April where the plants are to remain, thinning them out to the required distances. The plan answers equally well also for Savoys, the plants being much sturdier from the first, and receive no check by transplanting.

BROCCOLI.—The heads were poorer last spring than we ever had them; they were also late and came in "a glut." I have abandoned the culture of "winter" Broccoli, not having had a head but what was damaged by frost for years, for the early winter sorts do not head with me until late winter, and with Cauliflower or autumn Broccoli, Veitch's Self-protecting being first-rate if lifted when the heads are 3 or 4 inches in diameter and planted in frames and protected from frost, continuing until very nearly the time the spring Broccolis come in. The kinds grown are Veitch's Spring White, a capital kind, having very compact medium-sized pure white heads, followed by Cooling's Matchless, Leamington, Lauder's Goshen, and Sutton's Perfection, all first-class. I should not like to dispense with any of these, but Leamington is perhaps the least satisfactory. The plants are this year not strong. I have not laid the plants for many years. None have been "legged" by frost, which may be due to the saline manures applied—nitrate of soda, which is also a powerful agent against slugs; 1 lb. is a sufficient application to a square rod—80½ square yards.

CARROTS.—These have, as they have ever done with me, grubbed, though I have used wood ashes, and soot and lime plentifully, and have also grown Onions in the Carrot beds. They are usually attacked at thinning time, when I usually dress with soot, evidently too late, as the eggs of the fly are then deposited, the grub being at work shortly afterwards. The wood ashes are placed in the drills at sowing time. A wineglassful of paraffin well stirred into three gallons of water, let stand forty-eight hours, and then having the oil skimmed off, I find to be a good preventive both of grub in Onions and Carrots, applying the water with a rose watering-pot when the plants have two blades or two leaves besides the seed leaves, and again just before or immediately after thinning. The French Forcing Carrot is the best for frames, Early Horn for use in summer, and Intermediate Scarlet for autumn and winter. Red Surrey is first-rate for deep soils.

PARSNIPS and BEET.—Both crops are fine. There is no better Parsnip than a good stock of Hollow-crowned. Of Beet Dewar's Dwarf Red is early and of good form, size, colour, and quality. Some others are higher-coloured, but they are not so uniformly good. Salsafy and Scorzonera are smaller than usual and much forked. Jerusalem Artichokes are very uneven in form. Turnips are excellent, especially Early Snowball, Early White Stone or Six-weeks, and Golden Ball. Vegetable Marrows were practically a failure. Long White was no better than the Custard. The season has been too cold and wet for them.

CELERY is shorter and smaller than might have been expected, but the quality is good. Sandringham or Incomparable Dwarf White is the best white, and remains longer in use than any other sort. Leicester Red (Major Clarke's) is the best red, but it is not so good a keeper as Williams's Matchless Red.

LETTUCES were probably never finer. Early Paris Market is a first-rate Cabbage Lettuce for frames and for early use, coming in before any other by several days, and appears to be not only earlier but hardier. Neapolitan is the finest of all the Cabbage kinds for summer. Stanstead Park is the best Cabbage sort for standing the winter. Of Cos varieties the old Bath or Brown Sugarloaf is good, and for frames is unequalled, also for early summer use. Hicks' Hardy White is a good kind for either summer or winter, but is surpassed in summer by the Alexandra White Cos, which is simply a good stock of Paris White.

ENDIVE.—This is not so fine as usual. The Round-leaved Batavian and Green Curled are the best. The plants have often given so much trouble in covering and uncovering with protecting material that we now plant in frames and cover with dry leaves, which excludes frost and light. The lights are used to throw off wet. A foot thickness of leaves will keep off any amount of frost and cause the Endive to blanch perfectly.

CHICORY.—I find it better to leave the roots in the ground until wanted, as when they are taken up and stored in sand growth takes place in mild weather, whereas by leaving them in the ground we take up as wanted without any loss, and plant in rich soil in a dark place. In a Mushroom house the heads are fit to cut in about three weeks. Witloof is the same as Large-rooted Chicory; in fact we have both sorts, and no one can tell any difference between them. The well-blanchd heads are admirable for winter salad.

Of **RADISHES** none are more esteemed than French Breakfast, which is excellent for forcing; so also is the White Forcing Turnip (Sutton's). Wood's Early Frame is all that need be grown of the long short-tops for frames and early produce, but in summer it is superseded by Long Scarlet.

TOMATOES.—Plants out of doors have entirely failed. Some in cold pits had the disease badly, and others in a cool house were also infected, but others, again, in a warmer and drier house were not contaminated, though the plants were placed in contact with fruit blackened by the disease. Orangefield Dwarf is fine for pots, and Hathaway's Excelsior for planting out against walls. Carter's Greengage is the best of the yellow-fruited sorts.

ONIONS have been a good crop and are keeping well, except Danver's Yellow, which does not keep well with me, nor does it crop so well as Reading, which, with White Spanish, are the best whites. There is no difference in appearance between Brown Globe and James's Keeping, yet the latter will keep much longer than the former, though both are good keepers. Leeks have done grandly. Carentan is the best; it is an improved Musselburgh.

ASPARAGUS came up very weakly. Some of the heads were damaged by frost, the supply having been not only scant but of short duration. Connover's Colossal was very much better than the old variety, which will soon be superseded by it. Artichokes (Globe) have been excellent. The old plants continued producing heads late in November. The spring-planted suckers were not profitable. Summer Spinach was good. The winter crop is very thin and not at all promising. Seakale has made good growth and ripened off well. After two seasons' experience of Fern-leaved Parsley I find it superior to any of the curled sorts both for culinary and for garnishing purposes. Mushrooms, as regards fields, have been a blank. Beds in the Mushroom house are cropping well and are producing very fleshy Mushrooms. Rhubarb excellent; that now forced is very strong for the time of year. St. Martin's is the best for forcing and early. Monarch is the largest sort and is of very good quality.—YORKSHIRE GARDENER.

CHRISTMAS DECORATIONS.

GLADLY do I sit down to pen a few hints on Christmas decorations in response to an appeal from a correspondent who has annually to decorate a dining-room and a church, for it is a subject to which the heart warms, beset as it is with pleasant associations and cheerful reminiscences; not, alas! without a tinge of sadness, the mind involuntarily taking a retrospective glance to scenes of brightness long since passed away and dear friends gone to the "land of the leal." How the sad roll of the departed lengthens with every year of one's life! Christmas come again? So it is. Soon will the little folks be declaring that it is quite the best Christmas they have known, and no doubt it will bring with it its own peculiar delights. Let me therefore not stay to moralise, but turn forthwith to the assistance of "S.," who in the dining-room appears to have hitherto confined his efforts to wreathing the pictures with evergreens, and who this year wishes to take a somewhat higher flight.

Now, let us suppose we have such a room having pictures hanging upon its walls with certain intermediate spaces, and to which we wish to impart a festive appearance with simple and inexpensive materials, and we might treat it very successfully in this way: Between each pair of pictures exactly midway we would fasten to the wall a bracket a few inches higher than the bottoms of the picture-frames, placing upon the bracket a vase filled with foliage of Iris foetidissima intermingled with pods of its scarlet berries drooping down from the long flexible stalks. Wreaths of Ivy should then be made to sweep downwards from each side of the bracket in a bold graceful curve, meeting another wreath from the next bracket in the centre of the bottom of the picture-frame, where three or four shoots of Ivy should hang down in the manner of a tassel. Plants in pots could of course be used instead of vases, and such other evergreens for the wreaths instead of the Ivy as taste or fancy may suggest. Failing the brackets a cluster of berried Holly might be used, but the effect would be neither so light nor elegant.

Church decoration should, I think, be confined to the embellishment of the pulpit, reading desk, altar, font, pillars, lamps, window-sills, and perhaps some portion of the walls. The seats should be left untouched, as also should memorial tablets and monumental tombs. I am fully aware that here

I am upon a delicate and vexed subject, and will only say generally that it appears to me desirable in this matter to strive for a happy medium between the florid embellishments of an extreme ritualism and the vulgarity of a certain old sexton, whose highest efforts never reached beyond sticking branches of Holly into holes made in the tops of the partitions and doors of certain old-fashioned square pews, and in throwing a few pieces more Holly upon the window-sills.

Most pulpits are panelled, and I know of no better way of treating them than to put a neat wreath of evergreens around each panel with a sacred symbol or monogram upon the panel itself. I have seen some very pretty wreaths composed of Holly, Laurustinus, sprays of Conifers, various berries, and white and yellow Everlasting Flowers. The best shrubs for really choice wreaths are berried Holly and the rich golden yellow variegated variety Golden Queen, *Cotoneaster Simondsii*, *Garrya elliptica*, *Laurustinus*, *Arbutus*, Ivy, *Berberis*, sprays of the scarlet Dogwood, *Osmanthus*, *Skimmia japonica*, *Pernettia angustifolia*, *Euonymus radicans variegatus*, and Box. Moss may also be used and Fern fronds, such as *Blechnum boreale* and the common Oak Polypody, so pretty at this season of the year with its yellow fructification, and *Iris foetidissima* may also be turned to account for this purpose. There is an indescribable charm about a well-made and skilfully-arranged wreath which can only be imparted when the makers possess refined and cultivated tastes; and I would counsel those who are sensible of a deficiency in this respect to avoid all ambitious attempts at startling effects or elaborate embellishments. Rather let your materials be few and simple, and also let that be the characteristic of your decorations, for then you will probably succeed in pleasing in a matter wherein you cannot reasonably hope to do more.—EDWARD LUCKHURST.

JUDGING ROSES.

In the peculiarly interesting report of the meeting of the National Rose Association on December 6th allusion is made to the desirableness of formulating rules for the guidance of judges. It is much to be desired. Every man fancies he is a judge of wine, a judge of theology, and able to judge Roses.

Judging from complaints in print, the office is sometimes accepted somewhat lightly and unadvisedly. At the large shows, however, and where well-known names are in office, it is more than foolish to make any question. I do not write as a judge. "I am not the Rose," as the French proverb says, "but I have lived near it." I have often been adjudicated upon, and I can only recollect two or three instances in which my partial opinion and that of two or three friends differed from the decision, and then the doubt was at once removed on asking for an explanation. After a certain time the faculty becomes almost an instinct. It is not often that boxes run each other very close; if so, I have observed one way is to pick out the weak points first of all. Whoever has fewest inferior flowers wins. Another plan is to give marks, and this I apprehend, in connection with the other, is the one generally adopted.

Mr. Shirley Hibberd, in his "Amateur's Rose Book," lays down the canon, "No new Rose ought to be certificated unless it is 1st, distinct; 2nd, of perfect form; 3rd, of good substance of petal; 4th, each petal shell-shaped and egg-shaped." The same principle will apply when compared in close competition. Form, colour, size, are the three necessary qualities according to Mr. Michel. Canon Hole, in his royal "Rose Book" decrees much the same. "Show Roses require beauty of form, beauty of colour, and that the Rose having both these qualities shall be exhibited in the most perfect phase of its beauty and in the fullest development to which skill and care can bring it." "An exhibition Rose should have," writes Mr. A. H. Kent (a name which many have misread of late from the Rose pages of our Journal)—"1, Richness or delicacy of colour; 2, Symmetry in form; 3, Size, in connection with 4, Vigorous habit; 5, Free-blooming qualities."

But perhaps Mr. T. Moore, F.L.S., in an interesting paper "On Judging New Plants" has given the fullest directions of all. Taking one hundred marks as indicating the highest degree of excellence, he would assign: 1, Form, 15 points; 2, Substance, 15; 3, Smoothness, 15; 4, Colour, 10; 5, Fixity of colour, 10; 6, Proportion, 10; 7, Size, 10; 8, Distinctness, 10; 9, Novelty, 5.

I do not myself attach much importance to the idea that even first-class judges have their hobbies and sometimes ride them rather fast. There are three judges in most cases, and

two may be always trusted to keep the third straight. The suggestion is certainly good that the National Rose Society's Committee should be asked to codify some rules on the subject. Lord's lays down laws for cricket; croquet and lawn tennis have both their national club rules; how much more should that which is rapidly becoming one of the fine arts? Only let those most competent consult together. As Sidney Smith said to the London Corporation when doubting about putting down the first wood pavement, though far be it from me to apply it in his irreverent spirit, "Gentlemen, you have only to put your heads together and the thing is done."—A. C.

IBERISES.

MR. HARDING's remarks on page 453 and the note appended thereto are opportune, as undoubtedly much confusion exists regarding the nomenclature of these attractive spring-flowering plants. Iberises are yearly increasing in popularity, and



Fig. 88.—*Iberis Tenoreana*.

certainly few plants have a more cheering effect on rocks and in borders in spring and early summer. Their bold yet chaste masses of snowy whiteness are extremely conspicuous, and when the flowers have faded and the plants are neatly trimmed they are yet even attractive by their fresh cushions of green.

There can be little doubt but that the plant alluded to by Mr. Harding is *I. coriacea*, a synonyme of *coriæfolia*; but the synonyme ought certainly to be accepted as the name of this very fine variety, and much confusion would be avoided by two names so similar as *corifolia* and *coriæfolia* being attached to two such dissimilar plants. The name of *coriacea* is with the more appropriate of the two, for the foliage of the plant to which it is applied is decidedly coriaceous, and its flowers are less flimsy than those of most others of the family. The foliage of the plant certainly bears a resemblance to that of some of the *Correas*, but it is not particularly striking, and no harm would be done, but, on the contrary, mistakes would be avoided, by accepting *coriacea* as the distinguishing name for the fine *Iberis* that Mr. Harding doubtless alludes to.

A few years ago a well-known correspondent of the Journal sent me plants named *I. corifolia*. These were greatly admired,

and some visitors on purchasing as they thought the same variety very naturally had plants of the species figured in your last issue sent to them. I afterwards ascertained that my stock was misnamed. Had the name of *coriacea* been generally adopted no such mistake could have arisen.

Mr. Harding is, I think, quite right that *I. saxatilis* and *I. corifolia* are synonymous; but *I. coriacea* is much finer than the species grown under either of those names. It has very large round flowers and handsome flower heads, resembling somewhat those of Tenore's *Iberis*, *I. Tenoreana*. The last-named is a very fine sort, especially for pot culture. Its foliage is very distinct, on account of the lower leaves being smooth and entire, those of the upper portion of the stem being toothed or crenated. The plant is well adapted for rock-work, and, as suggested, it is well worthy of being cultivated in pots. The flowers continue for a long time in beauty, and are very attractive in the greenhouse in spring. For cultivation in borders *I. coriacea* is, I think, the finest of all the *Iberises*.—A. N. G.

A SELECTION OF THE BEST HARDY FRUITS.

LIKE all gardeners who have undergone a thorough training to their profession, when an under gardener I had opportunities of gaining knowledge from many clever masters in large and small places, and in widely different localities, both in north and south. Amongst our evening amusements in the "bothy" particular attention was given to noting down all the work that had been done in each department during the day; when everything was started into growth how long it took the produce to mature, which varieties of fruits were the best bearers, the kinds which hardly ever bore, and those which seldom missed producing a crop. At that time all this kind of information seemed scarcely worth the paper on which it was scribbled, but now I often find it handy as a reference; and as many are now wishing to know which varieties of fruit trees they should plant to insure the greatest amount of success, I have thought that the following selections from my old calendars of sorts that rarely failed to produce a crop under varied conditions might be found to suit their requirements. At the same time I may state the lists are not "old-fashioned," because many of the sorts therein named have ripened very heavy crops this season when fruit crops were a failure generally.

APPLES.—Dessert.—Margaret, the earliest of all Apples; Kerry Pippin; Cox's Orange Pippin, exceedingly good, the very best of all the Pippins; Golden Winter Pearmain, nearly as good, suitable for both dessert and kitchen; Pitmaston Nonpareil, Golden Pippin, Golden Harvey, and Winter Peach. **Kitchen.**—At the Apple election Keswick Codlin headed my list, and I must give it the same preference here. It has only one fault—it will not keep late, but for a sure cropper there is none to equal it, and it is ready for use at a time when few Apples are ripe. Lord Suffield, very large; Hawthornden, very certain; Cox's Pomona, Stirling Castle, Blenheim Orange, Bess Pool, Northern Greening, Norfolk Beefin, and Scarlet Nonpareil. All these will do as standards.

PEARS.—Williams's Bon Chrétien, Beurré d'Amanlis, Autumn Bergamot, Beurré Diel, Louise Bonne of Jersey, Seckle, Passe Colmar, Glou Morçeau, Winter Nelis, and Easter Beurré. Excepting in very cold exposed localities all these succeed as standards.

PLUMS.—Dessert.—Green Gage, Coe's Golden Drop, Jefferson's, Kirke's, Late Orleans, Reine Claude de Bavay. **Kitchen.** What Keswick Codlin is amongst Apples the Victoria is amongst Plums, it bears prodigiously either on a wall or as a bush; Early Orleans, Goliath, Washington, White Magnum Bonum, and Winesour. It is advantageous to place the most of these against a wall. The Damson so excellent for preserving may be grown as a bush in either kitchen garden, pleasure grounds, or orchard. I find this variety requires root-pruning oftener than any other to keep it in good bearing condition.

PEACHES.—Early York, Hale's Early, Noblesse, Royal George, Barrington, Late Admirable, and Walburton Admirable. All these must be grown against a south wall. During some seasons Peaches do not ripen well in the open air. Many err in planting sorts which are late in ripening, whereas by planting early kinds they have a much better chance of ripening their fruit before the bad weather sets in in autumn. The two last-named Peaches are very late.

NECTARINES.—Lord Napier, the earliest and excellent; Elruge, very fine; Violette Hâtive, just about as good; Pine

Apple, Victoria, and Pitmaston Orange. These must all have the support of a south wall.

APRICOTS.—Moorpark and Oullin's Early. These are the most uncertain of all fruit trees in cropping, and I must confess that they are the only varieties in this selection not strictly what they are represented to be—namely, annual bearers. Where the two named fail others will not succeed.

CHEERRIES.—Knight's Early Black, Black Eagle, Late Duke, May Duke, and Morello. Unlike any of the other fruits named these will all succeed admirably against a north wall.

FIGS.—Brunswick, Brown Turkey, Brown Ischia, Bourjasotte Grise. Figs are not so often grown in the open air against walls as they should be. It is very rarely that those named fail, and the heavy crops of fruit they ripen in the autumn are always appreciated. The finest Figs I ever saw were grown on an open wall in a garden in East Lothian.

MEDLARS.—Broad-leaved Dutch, Small-fruited. As these are so much inclined to spread and are not unornamental they are more suited to pleasure grounds or fields than the kitchen garden.

NUTS.—Cosford, Kentish Cob, and Pearson's Prolific may be planted with the Medlars.

GOOSEBERRIES.—Red.—Champion, Ironmonger, Crown Bob, Champagne, Lord Derby, Rifleman, and Warrington. **Yellow.**—Broom Girl, Pilot, Yellow Ball, and Yellow Sulphur. **Green.**—Green Gage, Green Overall, Jolly Angler, and Pitmaston. **White.**—Champagne, Queen Anne, and Whitesmith.

CURRENTS.—Red.—La Fertile, Knight's Large Red, Cherry, Ruby Castle, and Red Dutch. **White.**—Transparent White and White Dutch. **Black.**—Lee's Prolific and Ogden's Black.

RASPBERRIES.—Carter's Prolific, Fastolf, Filbasket, Yellow Globe, and White Antwerp.

STRAWBERRIES.—President, Keens' Seedling, Dr. Hogg, an improvement on British Queen; Elton Pine, late; Lucas, Sir Charles Napier, and Vicomtesse Hericart de Thury.

Just a word to purchasers of fruit trees. Always buy the very healthiest and best-grown examples that can be procured. Stunted weakly-grown trees are very liable to canker, and even if they escape that disease they will not by the time they are fairly into bearing produce half so much fruit as they would have done had they been healthy trees to begin with.—A KITCHEN GARDENER.

EARLY-FLOWERING CHRYSANTHEMUMS.

I HAVE for some years been trying to get a collection of early-flowering Chrysanthemums. I have fairly succeeded, and beg to give your readers a description of the best.

1. *Precocité.*—A beautiful jonquil yellow, 2 inches across. This is in my opinion one of the best both as to form, colour, and for continuous blooming. In flower from the end of August to end of November.

2. *Frederic Pelé.*—Bronze red. Very like the last variety in form, growth, and size of flower. Bloomed from August to end of November.

3. *Nanum.*—Creamy blush. Flowers 2½ inches across. Bloomed in August. Very pretty and desirable.

4. *Durham.*—Pretty primrose. Flowers of good size. Blooms from August to end of October. Last year a plant of this variety had five hundred blooms.

5. *Illustration.*—Colour light pink, changes to almost white. Blooms from August to December.

6. *Adrastus.*—Colour a pleasing crimson. Bloomed in October. This will bloom much earlier under more favourable circumstances. The plant was raised from a late cutting.

7. *Aigle d'Or.*—Pretty yellow, of a large size. Bloomed in October. A very good variety.

8, 9, 10. *Jardin des Plantes.*—Yellow, pink and white, and white. All exactly the same in form and growth, dwarf in habit, profuse in flowers. In bloom from August to the end of October. The yellow variety also known by the name of Golden Madame Damage.

11. *Madame Bachoux.*—White, shaded light purple. Blooms in August. Flowers of good size.

12. *Madame Pecoul.*—There are two varieties of this, light and dark rose. Blooms in August. Very desirable.

13. *Sour Melanie.*—French white. Flowers large. This should bloom in September; with me it was much later this year. It is an exceedingly beautiful variety.

14. *Madame Alphons.*—French white. Very like the preceding variety.

15. *Lucinda.*—Very light pink, in the way of Illustration.

16. *Golden Button*.—Small flower of a rich candy yellow; centre tipped red. Very floriferous. Flowers from September to December. Hardy and desirable.

17. *Delphine Caboché*.—Small flowers of a light reddish mauve colour. Blooms from August to December.

18. *Little Bob*.—Small flowers produced in great numbers, of a dark crimson colour. Very dwarf.

19. *Cassy*.—Small flowers of a pink and white colour. Bloomed in October. Habit good.

20. *Chromatella*.—Orange, tipped red. Bloomed in October. Small flowers.

21. *Ann Mitchell*.—Bloomed in October. Flowers small, of a reddish brown colour. Habit good.

22. *Mrs. Atkinson*.—White, shaded pink. Bloomed in October.

23. *La Vogue*.—Small yellow flowers; centre orange. Bloomed November 10th.

24. *Esther Emans*.—Bloomed in November, of a dark pink colour.

25. *Salamon*.—Bloomed November 7th. Dark rosy carmine. Very pretty indeed.

26. *Argentine*.—Small pure white flowers. This should bloom in September.

27. *Jane Elizabeth*.—Flowers of the button size, of a pale sulphur colour. This should bloom in September.

28. *Lizzie Holmes*.—Yellow. Should bloom in September.

29. *General Canrobert*.—Button shape; colour pure yellow. Bloomed October 25th.

30. *Mrs. Hutt*.—Reddish brown; erect habit. Bloomed November 5th.

The above thirty may all be called early-blooming varieties for the garden borders. The latest of them will bloom, in a good season, not later than the beginning of October. Most of them have flowers of a good size, and are handsome, showy, and of compact habit. They are, too, of easy culture, and they cannot fail to make our borders very gay and attractive during the months of September and October, and, if the weather should be favourable, to the end of November.

I hope to still further increase and improve my collection. I shall be pleased to exchange cuttings with anyone or to know where other varieties are to be purchased.—F. FREEMAN, Middleton Vicarage, Leeds.

AN AMATEUR'S GARDEN AND GREENHOUSE.

I HAVE much pleasure in contributing to the Journal a few notes on my garden and greenhouse experience. Before, however, relating my successes and failures (as a beginner I of course had some of the latter, and gladly accepted them because they taught me how to do things better in future) I ought, perhaps, to state that my garden is not a large one, yet it is of such a size as to keep me fully employed in all my spare time, of which friends tell me I have plenty; but then I rise very early in the morning, which is a great thing. For gardening, like other work, there is no time so valuable and enjoyable as the early morn.

I have no gardener living on my premises. I employ one to do some of the very rough outdoor work and to keep the lawns mowed; but I like to do without him as much as possible, for the reason that apparently very few of the hired men of this locality are competent gardeners. With the exception named I may say that I do all my own work both in and out of doors. Nearly all persons are fond of flowers, but there are some among them who do not care to do any work in order to produce them—they like to have them made like many other things, and look at them without any trouble to themselves. To my mind, in acting thus the real pleasure of having flowers in our gardens and conservatories is lost, and, speaking for myself, I certainly prefer to rear them, watch them, and attend to them, and so have all the pleasures and delight appertaining to floriculture. In this delightful pursuit I regret to say I have not had a very long experience.

Until about two years back I was living in town, and there much gardening cannot be done; still I had a friend in the country who would send me annually a large hamper of bedding plants, and with these I made my "town garden" look cheerful. When I had left town for my present residence I gladly accepted another hamper of plants from my friend for the first summer, but I felt that, having now a good garden and pure air, that was not, as our brethren across the Atlantic term it, the "O. K." thing to do. The plants so sent me were not now sufficient for me; my love for flowers was increasing,

and I must have more of them. Meantime in the spring I had amused myself by making a couple of garden frames in which to raise seedling plants. Although late I sowed some *Pyrethrum*, *Ten-week Stock*, *Indian Pink*, *Phlox Drummondii*, *Balsam*, and others: these with the contents of the hamper afforded me in due season a good display of flowers; but my chief flowers during the summer and autumn were and always will be *Roses*, the queen of flowers. Of these I have nearly a hundred standards and sundry climbers against walls and fences. The standards are planted on either side of the paths, thus forming avenues; they are of a great variety, and when in the months of June and July all are in full bloom they are a very pleasing sight indeed.

The soil here is not a good one for *Roses*, being of a very light character; still with a good mulching of old stable manure in the autumn and an occasional watering with liquid manure when fresh growth commences in the spring and throughout the summer, with careful pruning and the heads frequently played upon with clear water through the garden hose to keep off green fly, I have not only had some excellent blooms, but a profusion of them. Taking them all round they gave me great satisfaction. The following are a few which, perhaps, did the best—viz., *Jules Margottin*, *Duc de Cazes*, *Comtesse de Chabillant*, *Duke of Edinburgh*, *John Hopper*, *Exposition de Brie*, *Alfred Colomb*, *Gloire de Dijon*, *Général Jacqueminot*, *Comtesse d'Oxford*, *Victor Verdier*, *Madame Charles Wood*, *Madame Jules Margottin*, *Baronne de Rothschild*, &c.

These notes comprise my doings, shortly given, for the first year of my gardening; it is purely that of an amateur, and though from the nature of the plants I possessed this year no great skill was necessary for their well-being, they, notwithstanding, required considerable attention in order to make the best of them. The great stumbling-block to my hobby for flowers, and indeed gardening generally, was that I had no place in which to preserve old plants and to propagate for next year's display. This was a great trouble to me. My small garden frames which I had made were all very well to raise a few plants from seeds, but that did not cover my ambition. I must have a greenhouse somehow or other. I had taken my dwelling-house only for a few years, time was fleeing fast, and I did not care to go to the expense of erecting a greenhouse wholly myself, for the reason that in a portable house there is not that facility for heating as in a permanent fixture, therefore I placed myself in communication with my landlady's representative, and after several months' delay we came to terms, which I need not here particularise. This brings me to late in October; meantime there were great doubts as to the success of my negotiation, and I felt somewhat reluctant to make any serious preparation for stocking a house. However, I struck some ten to twelve dozen zonal *Pelargoniums*, in the manner so often laid down in these pages, in anticipation of a house being ultimately erected. It was in due course completed, but I think I had better defer my doings therein for publication in your Journal on some later occasion.—L. HAKEMAN.

GLADIOLI.

I WAS interested in your correspondent's notes about *Gladioli* on page 451, because he is in the same position as I was myself at one time. He seems to believe that there is disease inherent in the *Gladioli*. I freely admit that up to the present year I also laboured under the impression that the mysterious dying-away of the *Gladioli* was attributable to disease; but having last spring improved my system of culture by thoroughly preparing a bed of soil and by what I saw at the Messrs. Kelway's nurseries last September, where there was not the slightest symptom of disease amongst the hundreds of thousands of corms which they grow spread over six acres of land, and the perfect immunity from any losses in my own case when I gave them the soil that suited them, quite satisfies me that there is no real disease. The mysterious losses so common in them arise, I believe, solely from an unsuitable soil or position or an insufficiency of water. For several years I grew the *Gladioli* in the common soil of the garden here and in beds with a portion of the soil removed and good soil added to supply its place; but I met with indifferent success. At last I determined to make one more effort, and I planted them in a well-drained warm border with 2 feet of good loamy rich soil, and the result was all that I could desire. In this spot I planted over three hundred corms last spring, and I

never lost a corm from any cause whatever, and until the end of November the foliage kept in a fresh healthy condition.—J. C. CLARKE, *Gardener, Cothelstone, Taunton.*

A FEW MORE REMARKS ABOUT ROSES.

ALTHOUGH only an amateur I have for years taken great interest in the cultivation of this lovely flower, and mostly work my own plants. I reside in the North Riding of Yorkshire on the verge of the Hambleton Hills, and cultivate the Rose for the pure love of the flower. I have been therefore much struck with the remarks of some of your correspondents relative to individual varieties of this charming flower. Doubtless much is to be gained from the opinions of those who study and cultivate for the intrinsic worth of the plant itself, and the experience of growers situated in different parts of our fickle climate with regard to certain Roses which do or not do well in different districts and situations ought to be estimated as it deserves.

In your Journal of the 29th of November the Rev. W. F. Radclyffe gives his advice as to what Roses he would recommend the public to buy. After giving an excellent list, selected from a former correspondent, he goes on to recommend some Roses as an addition, and among the rest mentions Edward Morren. After long experience in this part of the country I cannot agree with his recommendation of this Rose; although it grows well, it obstinately refuses to open with me, and I have never seen a satisfactory bloom of it in this part of the country. I have therefore discarded it from my collection. I am also much surprised to find that two other favourite Roses here—viz., *Maréchal Niel* and *Marie Baumann*, are classed, the former as one of the "not generally recommendable for the public," and the latter as one of the "generally bad growers."

Were I asked to recommend a Rose as a wall Rose in this part of the country my recommendation would be, *Plant Maréchal Niel*, worked on the Dog Rose, against a south wall. My opinion is that the wild Briar is the stock *par excellence* for *Maréchal Niel*. So vigorous is this grand Rose on this stock here that it grows like a Willow and speedily covers a large wall, and in due course beautifies it with its attractive and numerous blooms. I have been the means of its extended distribution in this neighbourhood, and have not found one to regret having planted it. With regard to *Marie Baumann*, the other unfortunate in your correspondent's list, it is somewhat singular that Mr. Witherspoon, hailing from a quarter farther north than myself, should in the same number of the Journal corroborate what Mr. Radclyffe says as to the bad-growing qualities of this Rose. On the Briar stock this is the best grower and the best bloomer of any Rose I possess, and I have numerous varieties. At the present moment I have a standard of it in an open and exposed situation which is a mass of half-expanded blooms, and it is one of the most satisfactory Roses I possess.

I cordially agree with the advice of Mr. Radclyffe to go and see Roses in a nursery or large collection and you will be able to judge for yourself. Although your correspondent says that the election of Roses, as given from year to year in the pages of the Journal, would deceive the elect, I wish to remark that I have not often been deceived by it, as I have purchased varieties of Roses entirely through their position in the election, and the result has been that I have seldom been disappointed.—GEORGE WHITFIELD, *Thirsk.*

SPRING GARDENING.

THE following paper, abridged from the *Darlington and Richmond Herald*, was read in the Darlington Gardeners' Institute on November 29th by Mr. Atkinson, from Messrs. Fisher, Holmes, & Co.:—

I have been requested to say a few words to-night upon spring gardening. I divide my subject into four classes—first, shrubs; second, annuals; third, herbaceous plants; and lastly, bulbs. I first mention some varieties of shrubs I think suitable, and of which a stock can be procured at any respectable nurseryman's. Amongst the tree varieties of Ivy, *Silver Queen* is most effective; Gold-blotched and *Regneriana* are very fine. There are two very pretty scarlet-berried plants—viz., *Skimmia oblata* and *japonica*. *Eunonymus japonica variegata* and *radicans variegata* are useful plants, and also Gold and *Silver Queen* Hollies. The *Cupressus* tribe affords good varieties, such as *glaucia* and *minima viridis*. The best golden variety

is undisputably *Lawsonia lutea*, as it retains its beautiful golden hue throughout the winter months, the absence of that enduring quality being but too common amongst the golden Conifers. We would also select from the *Junipers chinensis aurea*, *hispanica*, and *excelsa striata*. *Retinosporas* are from their graceful and compact habit of growth very useful for spring gardens, and I would choose from them *plumosa aurea* (a very beautiful plant), *aequalis*, and *ericoides*. We would also recommend *Thuopsis dolabrata*, *laevigata*, and *Standishi*. Amongst Yews, *elegantissima*, *pyramidalis variegata*, and the Golden Irish. In green varieties, *espacioides* and *japonica*. Box, *minima*, *argentea nova*, *chinensis*, and the *Handsworth*, a broad-leaved variety, distinct and fine. The *Berberis*, a graceful type of shrubs, give us *Hookeri*, *japonica*, and *Fortunei*. Yuccas are very effective in the centre of shrubs, and *plicata*, *recurva*, and *stricta* are hardy, cheap, and remain a long time at a manageable size. Many other plants of a kindred nature might be added, but I think the varieties already enumerated are sufficient for most gardens, and, combined with the classes of plants I am about to mention, give a warmth and appearance to the spring garden it would be difficult to attain without them.

I now come to the hardy annuals, a class within the reach of the humblest cultivator, and suitable for the smallest garden. The following, which are of easy cultivation, will be found effective, especially when judiciously arranged as to colour and height:—*Silene pendula compacta*, pink and also white; *Myosotis sylvatica*, *sylvatica alba*, *azorica* and *palustris*, the last being the most valued in the south of England. *Limnanthes Douglasii*, yellow; *Saponaria calabrica*, white and also pink; and for edging *Nemophila insignis*, beautiful blue. The *Nemophila* forms a charming edging to the other annuals. In addition to the annuals I have already named I would recommend a few biennials, such as the Brompton Stocks and the Belvoir Castle red and dwarf yellow Wallflowers.

I will now deal with the third division—viz., herbaceous plants, such as *Ajuga reptans*, *Arabis lurida variegata* and *albida*, *Aubrietia græca* and *variegata*, *Iberis gibraltaria*, *Primulas* in both single and double varieties. *Polyanthuses*, *Saxifrages*, and *Daisies* are useful and pretty; among the latter *Victoria*, white, dwarf red, large-striped, and *ancutifolia* are good—the last especially for edging. The *Dactylis glomerata variegata* is a most useful Grass. I now draw your attention to those most useful spring bedders the *Violas* and *Pansies*. The Great Eastern and Golden Bedder *Pansies* have proved themselves best for that purpose. In *Violas*, *Mulberry Queen*, *The Tory*, *Admiration*, and *Sensation* are conspicuous for their beauty and free blooming among a long list of others.

Our last division is that most esteemed and brilliant tribe—the bulb, which comprises the most beautiful flowers that adorn the spring parterre, the showy Tulip, the stately Hyacinth and *Narcissus*, and the *Crocus* being most used. There are also the several varieties of *Scillas*, *Anemones*, *Jonquils*, *Snowdrops*, and *Ranunculuses*.

I will now describe a bed that I saw last spring at an establishment where spring gardening is much fostered, as it affords an useful hint on arrangement. It was a circle 20 feet wide, and the centre plant was a splendid specimen of *Retinospora plumosa* 2 feet high. The first circle which surrounded it was composed of *Cupressus minima glauca*. Between each plant was a double scarlet Van Thol Tulip. Next came dark blue Hyacinths, followed by a circle of scarlet ones. Then came *Silver Queen* Ivy, with a groundwork of single Van Thol Tulips. Between this line and the centre the bed was covered thickly with *Myosotis palustris* in beautiful bloom. Next outside came *Charles Dickens* Hyacinth, porcelain, followed by *Sultan's Blush*, surrounded by a row of white Hyacinths. The next circle was *Eunonymus radicans variegata*, alternately with single Van Thol Tulips, carpeted with *Golden Thyme*. Following were separate circles of *Mauve Queen* Viola, *Ajuga reptans*, *Golden Bedder* Pansy, and *Saponaria calabrica*. The outer line was composed of the *Aucuba*-leaved Daisy, the whole forming as charming a combination of spring gardening as I have ever had the pleasure of seeing.

DECEMBER FLOWERS AT VEITCH'S.

HAVING recently had a day at my disposal for visiting a London nursery I elected to have a look round Veitch's. My object was to ascertain what plants were "in" at this dull period of the year when the *Chrysanthemums* are fading, when *Camellias*, *Azaleas*, and forced shrubs are yet flowerless,

and when bulbs, except Roman Hyacinths and a few early Tulips, have not awakened from their summer's sleep.

December is proverbially a dull month. The weather is often dull, trade is often dull, and gardens are generally dull during the few weeks preceding the great national festival of Christmas. The country I know is dull at that time, and I did not find the town particularly lively. The streets were greasy and the atmosphere was murky; even that dull structure, Temple Bar, looked duller than usual, for I found the preparations for its demolition, or at least removal, had just commenced. I found too, of course, a crowd watching the proceedings—a real London crowd that is notorious for good humour; but the crowd even was not true to its character, for not a joke did I hear, not a smile did I see, as I elbowed my way through the solemn or sullen multitude. I arrived at "the office;" here at any rate it was not dull, for publishing happened to be in progress, and boy-loads, and man-loads, and truck-loads, and van-loads of Journals were being dispatched. "Holloa!" was the greeting. "What! you here! A dull time for visiting London." "But I'm off to Veitch's; it isn't dull there, is it?" "No; at least they came out well at Kensington the other day. But go and see for yourself and let us know what's going on." I went. The greeting was again pleasant, yet—shall I write it?—dull, for the first words of the courteous official were half apologetic. "Come in, but I'm afraid we have not much to show you; it's a dull time, you know." I began to think the dullness was chronic, and that December had not its name for nought. But dullness after all is a relative term. What Mr. Taylor, who lives amidst flowers, may consider dull others may deem cheerful, and certainly I found sufficient to cheer at Veitch's.

The collection of Orchids was first inspected. Here, summer or winter, there is always something to attract notice. I saw the grand *Cattleya exoniensis*, of which I had read such glowing accounts, and found it more beautiful than I anticipated; brilliancy and chasteness are combined in this remarkable variety. Its flowers, however, are now fading. A few other *Cattleyas* are also flowering, including a fine variety of *C. Mossiae*, but none of them are equal to *C. exoniensis*. Wherever such plants are grown there this *Cattleya* should be. Very conspicuous are the Butterfly Orchids, *Phalaenopsis grandiflora* and *amabilis*. Their large pure white flowers are exceedingly beautiful, and are among the choicest of the choice for Christmas decorations. *P. Schilleriana* is showing strongly; even without the flowers the plant is attractive by its handsome marbled leaves, with them it is superb. In contrast with the larger forms of this genus the smaller-flowered *P. Parishii* is noticeable. Where sufficient heat can be afforded these plants are highly worthy of a good share of it. No Orchids are more free, for even tiny plants in thumb pots throw up their spikes readily. That remarkable Orchid *Angraecum sesquipedale* is in fine condition, and is showing several flowers. It is one of the plants of which the firm cannot get enough of. In remarkable contrast is the still more rare *A. citrinum*. No wreath can be imagined more perfect than that formed of the two rows of small creamy white pink-suffused flowers arranged with the greatest exactitude on the slightly arching stem. Those who have this plant will treasure it, those who have it not may be excused for coveting it. Another white-flowered Orchid now in beauty is *Cymbidium eburneum*. The massive texture of this flower and its great purity places it very high in the scale of beauty; indeed, Mr. Denning places it in the highest position, for I once heard that well-known cultivator remark that if he was compelled to name what he considered to be the most beautiful flower in creation it would be *Cymbidium eburneum*. The Australian *Dendrobium Johannis* is flowering, but it is more curious than beautiful, yet its dark twisted sepals render it distinct. Really and unquestionably beautiful, however, is *Laelia autumnalis*. This is a most valuable December flower. It is represented by several varieties, ranging in colour from pale lilac to purplish violet. It grows and flowers freely, and must be ranked as one of the finest of its season. Somewhat of the same pleasing colour, and in growth and flowers resembling a miniature *Gladiolus*, is *Bletia hyacinthina*, half a dozen plants of which in a 7 or 8-inch pot produce an attractive effect. *Vanda tricolor* commands notice by the health of the plant, the size of its spikes, and the beauty of its flowers; it is very fine. Attractive also are the elegant racemes of *Saccolabium giganteum*. A few *Oncidiums* contribute their deeper and brighter colours to the general display. *O. varicosum* is fading, but the more persistent *O. Barkeri* continues fresh and cheerful. It has a

fine spike and numerous flowers, the predominating colour being pale primrose. In contrast with it is the deep cinnamon-brown *O. crispum* and the still brighter and finer *O. Forbesi*, the yellow fringe of which renders it very gay; and erect and stately is the darker-flowered *O. purpuratum*. The good old Orchid *Zygopetalum Mackayi* is in excellent condition, having luxuriant spikes of its finely marked flowers. It is a valuable "back-row" plant for this period of the year. *Epidendrum ciliarum* is noticeable, not however so much on account of its beauty as for its remarkable lip, which is fringed like delicate-textured lace.

In the "cool houses" a few plants assert their winter decorative value. The well known and deservedly popular *Odontoglossum Alexandrae* is showing freely, and the plants are remarkably fresh and sturdy. So popular is this *Odontoglossum* that it has to be grown by the thousand to meet the great demand. *O. Rossi majus* is also flowering; it is dwarf and attractive. More stately is *O. Pescatorei*; and finer still, indeed exceedingly beautiful, is *O. cirrhosum*. A more valuable and important Orchid than this has not been introduced for many years past. It possesses every quality to render it popular. It grows and flowers freely in a moderate temperature, producing fine branching spikes and flowers of remarkable beauty. It has been imported, too, in such large numbers that it can be distributed at a cheap rate, and now that it is within the reach of so many who possess houses in which it can be grown satisfactorily I would suggest that, if possible, it be figured, for although it has been distributed so largely and is well known to Orchid growers generally there are yet many lovers of December flowers who are as yet unacquainted with this, one of the very best of them. Another Orchid—more lowly than those named, yet much more bright, perhaps even the brightest of all—is also flowering, *Sophranitis grandiflora*. This dwarf epiphyte is growing on cork, but only a few of the plants are in beauty; their rich scarlet flowers are extremely telling. *Masdevallias* are cool Orchids of great value and easy culture. *M. tovarensis*, the distinct and charming Columbian species, is highly attractive. The habit of the plant is dwarf and compact, and the flowers are of the purest white and continue fresh for a long time. Equally distinct is the bright golden yellow *M. Davisii*, which is about expanding. Other fine sorts are *M. Lindeni*, magenta purple; *M. Harryana*, rich violet crimson; and *M. Veitchiana*, orange scarlet shot with purple. These dwarf and beautiful Orchids cannot be too "highly commended."

A notice of this class of plants would be incomplete without allusion being made to the *Calanthes*. No "December flowers" are more useful than these. Although destitute of foliage during the flowering period they are yet valuable for associating with other plants—convenient too, for they can be placed amongst "foliage" plants without crowding. They are extremely cheerful; indeed one cannot be dull even in "dull December" where well-grown *Calanthes* are. They are very serviceable too for cutting, the spikes having an excellent effect in vases, while the individual flowers are the "very things" for button holes. The new variety recently noticed in your Journal, *C. Sedeni*, is now fading. It represents a lucky cross by Mr. Seden, who has been fortunate in transferring the rich blotch of *C. vestita* to the centre of *M. Veitchii*. It is a remarkable example of the potency of artificial fertilisation. Besides the two useful *Calanthes* named—*vestita* and *Veitchii*, white with a chocolate blotch, and rosy purple respectively—*C. vestita lutea*, white with a yellow blotch, and *C. vestita alba*, pure spotless white, are flowering freely. The last-named variety is particularly chaste; the flowers are of excellent form and very attractive. These valuable and easily-grown plants are yearly increasing in public favour, and it is necessary to increase them largely to provide an adequate supply.

Yet another family of Orchidaceous plants merit special attention as "December flowers"—namely, *Cypripediums*. These plants flower freely at other periods, but they never show to greater advantage than now. The skill of the hybridiser has been richly rewarded by a succession of new and distinct varieties, some of which are not yet in commerce. Amongst those flowering now are *C. Harrisianum*, a fine dark flower; *C. Arthurianum*, brighter and much spotted; *C. marmorophyllum*, distinct by a suffusion of mauve, rosy stripes, and fine marbled foliage; *C. Schlimii*, a lovely light variety; *C. pardinum*, heavily spotted sepals; *C. venustum*, a similar yet darker flower; and the valuable and luxuriant *C. Sedeni*. The last named is an established favourite. Another variety of sterling merit is *C. insigne Maulei*. The typical species is

a good old plant, but is far surpassed in beauty by the improved variety—improved by its larger flower and by the clear white corona on its upper sepal, which renders it so attractive. Few plants are more easily cultivated than these; given efficient

drainage, light rough open soil, water as required, and moderate heat, and they will grow freely and flower with certainty at a time when their flowers are welcome; they, moreover, last longer when cut and placed in water than most other flowers—



FIG. 89.—*ODONOGLOSSUM CIRRHOSUM*.

lasting, indeed, fully three weeks. Thus *Cypripediums* are plants of considerable importance for winter decoration. It is not only the Orchids in flower that merit the approval of visitors; the great number of plants of all sizes and their health and cleanliness have a large share in sustaining the interest, especially of those who inspect the collection for the first time.

Among other plants now flowering in the nursery *Cyclamens*, as may be expected, are largely represented. A houseful of these plants produces quite a cheerful effect, and the perfume is delightful. Another large house is almost entirely occupied with "tree" or perpetual-flowering [Carnations, and so admired

are the flowers that they are cut almost as fast as they expand. Many of the varieties flower freely in 4 or 5-inch pots, and such plants are very valuable for various decorative purposes. The sorts chiefly in demand are Miss Joliffe, flesh colour; La Belle, white; Czar, mottled scarlet; Rose Perfection, bright rose; and Mons. Baumann, bright glowing scarlet. There is also a stock of the good old *Souvenir de Malmaison*, which produces such ponderous blooms. A white *Dianthus*—a variety of the Mule Pink, *D. hybridus*—is flowering in small pots, and is very pretty. In the Carnation house a *Veronica* of great merit is flowering freely—*V. Hendersonii*. It is a short-jointed rather small-leaved sort, yet not so small as Blue Gem, and has dark

blue flowers which are sweet-scented. It is an excellent December flower of the easiest culture. *Bouvardias* are indispensable for December, especially for affording bouquet flowers, and are largely grown. The most popular varieties are *Vreelandii*, *Hogarth*, *Longiflora*, *Flammula*, *Reine des Roses*, and a new dwarf bright-coloured sort named *Leeiantha*. *Abutilons* are nearly always in flower, and perhaps none are more useful than the white *Boule de Neige*. The new yellow *Boule d'Or* is distinct and bright, and *Rosæflorum* is a pleasing variety. *Fuchsia Dominiana*, which has almost been forgotten for years, is well to the fore. Since it has been seen how easily it can be grown and how bright and effective it is in December there has been "quite a run" on it. Heaths—especially *Ericas byemalis*, *gracilis*, and *cafra*—are December flowers of recognised merit, and cannot well be dispensed with, as also are

Statice Holfordi and *profusa*, and *Lasiandra macrantha floribunda*. The new rosy scarlet *Poinsettia* has fine heads and bracts. It is quite distinct from the "old sort," and affords an acceptable change. The double variety is not yet in beauty. Such plants as *Euphorbia jacquiniæflora*, *Centropogons*, *Plumbago rosea*, *Eranthemums*, *Amarylliseæ*, double *Primulas*, and *Epiphyllum violaceum* and *tricolor*, contribute to the general display. In one of the stoves the fine *Ipomœa Horsfalliæ* is flowering profusely. Besides the handsome flowers the black glossy flower buds of this plant are effective. Several small plants of *Ixoras* are yielding bright trusses. *I. Williamsii* and *I. Fraserii* are very free, and flower attractively in 4 and 5-inch pots. In the stove also a number of plants of the brilliant *Abelandra Roezli* are showing; also *Gesneras*, which are not much less bright, and are of easy culture. A shelf in a stove



Fig. 90.—*ADIANTUM LÜDDEMANNIANUM*.

will accommodate these plants during their season of growth, and when flowering they are worthy of the most prominent positions. *G. exoniensis*, *G. refulgens*, and *G. cinnabarina* combine handsome foliage with beautiful flowers. Perhaps the last named sort is as useful as any for general decorative purposes.

Of greater intrinsic value than many of the plants named for producing high-class flowers during the winter—indeed, nearly at all seasons of the year, are the *jasminiflora-javanica* type of *Rhododendrons*. One of the parents of the type, *R. jasminiflorum*, is yielding beautiful white flowers now, while other colours, also better foliage and habit of growth, are provided by the newer varieties. A beautiful trio are the following:—*Taylori*, bright rose, white tube; *Duchess of Edinburgh*, scarlet; and *Princess Alexandra*, white faintly suffused with rose. A smaller and new plant which must not be overlooked for winter decoration is *Col. Trevor Clarke's Begonia Moonlight*. It has the dwarf habit and rich dark foliage of *Pearcei*, with a profusion of round flowers neither

white nor yellow, but "moonlight" colour. It is very free and attractive. There is a remnant of *Lapagerias*—a few blooms of the lovely *L. alba*, which is quite one of the most charming flowers in creation. Of Pitcher-plants there is a considerable display. The flowers enumerated are not grouped together to produce an imposing effect, but are scattered over a great number of structures according to the requirements of the several plants.

Ornamental-foliaged plants—*Crotons*, *Dracænas*, *Palms*, *Aralias*, *Tillandsias*, *Marantas*, *Alocasias*, and *Palms*—are very numerous, and are as beautiful in their way as flowers, and cannot be dispensed with for winter decoration. Ferns also are ever charming. The crested Maidenhair (fig. 90), *Adiantum Lüddemannianum*, is both curious and elegant, and its dwarf habit of growth renders it suitable as a fringe plant in prominent positions.

Camellias are swelling their buds; they are mentioned, however, for the purpose of directing attention to the examples of handsome specimen plants in tubs, which illustrate in a

striking manner the importance of severe pruning and high culture. The plants have at some time or other apparently been cut down much after the manner of pruning Pelargoniums, and they are now well-furnished specimens, glossy and vigorous. A few—only a few—Azaleas are flowering; but many houses are required to accommodate the stock of these plants, so popular are they for spring embellishment.

And now a word—not on flowers nor ornamental-foliage plants, but on trees. Christmas is drawing near, and Christmas trees are an institution. Not a word shall be said against the familiar and homely Spruce Fir, for it will aid in making glad homes innumerable during the festive season; but for a Christmas tree more rare and more choice, what can equal a fresh, handsome, young specimen of *Arancaria excelsa*? Of this beautiful tree it is necessary to provide largely at Chelsea, and propagation of it is constantly going on. Not alone in the conservatory is it handsome in the form of a large specimen, but in a small state it is excellent for vases, and it is not more suitable for a Christmas tree and for decorating rooms in winter than it is ornamental as a "subtropical" plunged on lawns in summer. On inspecting a large collection many varieties are apparent; some light in appearance, some massive, but all pleasing. One of the more sturdy and dense in the leaflets is named after a noted continental nurseryman—Napoleon Baumann. A. Cunninghami is more slender in habit than *excelsa*, and A. Ruiei is much more robust, and, to use a nursery phrase, it is full of "character."

I have now told you, Messrs. Editors, what is going on at Veitch's, and have satisfied myself that it is not dull there.—A COUNTRYMAN.

NOTES FROM CORNISH GARDENS.

ROSEMUNDY HOUSE, ST. AGNES.

CORNWALL abounds with odd nooks and corners of which the world knows little or nothing, lying, as most of them do, away from its beaten tracks and busy haunts—unknown to fame, unnoticed in guide books, and yet so beautiful with beauty of a high degree and peculiar order as well rewards an explorer for his pains in finding them. My readers have already been made acquainted with one such nook in my description of Lamorran. Let me now take them to what is literally a corner—Rosemundy House, the residence of W. Naylor Carne, Esq., near St. Agnes Head, a rocky promontory on the north coast, about as unlikely a situation for a good garden as—well, as was the site of the beautiful grounds at Battersea Park in its original form of a low flat damp piece of waste land.

It was by an early train that we set out from Truro, for that day we had three gardens to visit in the mining districts, but situated at a considerable distance apart, so there was nothing better than taking time by the forelock in order to get through a long day's work satisfactorily. At the little station of Chacewater we found Mr. Carne had come to meet us, and glad enough were we, for without his kindly assurance that better things were in store for us we might have been tempted to turn back from the melancholy aspect of the bare and rugged surface among the tin mines through which our road lay. The mines are soon passed, and we actually revel in our enjoyment of a natural transformation scene so lovely as to be worthy of a special journey to see it alone. A minute ago we were driving through a district apparently blasted and death-stricken without a vestige of vegetation, and now we are in a flower garden brilliant with full rich summer beauty, for the road is fringed on both sides with broad margins of wild Heath that are just one dense mass of blossom running outwards to and clothing the face and top of raised-wall-like banks on either hand—a mingled growth of various kinds, all alike laden with crimson, pink, and purple bells, those on one patch especially being so large in size and brilliant in colour that we were constrained to pause for a closer inspection. For part of the way belts of trees behind the Heath enhanced its beauty, the varied greenery of foliage forming a charming foil to the cushion-like clusters of gay flowers, and then the country opened out into a vast level expanse—bare of trees, but with a pleasant air of brightness and animation imparted by the glistening waters of the Atlantic, visible on either hand, betokening our nearness to our destination, of which we have still stronger evidence in the sight of St. Agnes Beacon, a conical hill having an altitude of upwards of 600 feet, and not far from the foot of which lays Rosemundy in a valley running from north to south, and therefore not parallel to the coast, which here runs in a westerly direction to St. Agnes Head.

Snug and cosy is Rosemundy, nestling down among the trees, out of sight and sound of the sea; but it was not so naturally—the trees had been planted, banks had been thrown up and planted too with hardy shrubs to screen both house and garden from the south-western gales that frequently sweep inland from the vast ocean which lies so near, and the flourishing condition of the garden afforded ample proof how thoroughly these simple means of shelter had been applied and how well they answered.

"Mine is not a fine garden, but it contains a few choice plants," said Mr. Carne, as he led the way into it. A few plants! save the mark. It is a regular storehouse of floral gems, all growing in such rude health and crowded together in such profusion as to be absolutely bewildering. To catalogue them all would have been a work of two or three days, and as my visit hardly extended to as many hours I could only note some of the more conspicuous and such as appeared likely to answer in other gardens.

We first entered a small sunken panel lawn adjoining the house, snugly enclosed by walls and banks on the other sides. Many rare climbing plants clothed the walls—the glossy Chilean *Escallonia illinita* with white flowers; a handsome evergreen *Elæagnus*, which Mr. Carne called *E. japonica*; *Garrya elliptica* femina, also remarkable for handsome foliage; *Elæagnus pungens* variegata, very curious; and to these I may here add *Solanum jasminoides*, very lovely and perfectly hardy; and *Magnolia Lenne*, with very handsome foliage. Of other notable plants in beds and borders here there were grand clumps of New Zealand Flax; large tufts of *Plumbago Larpentæ*, gay with pretty pale blue flowers, an old but valuable perennial not often met with; *Hydrangea paniculata grandiflora*, a curious and lovely form with flowers opening white but quickly becoming suffused and blotched with deep pink. This must take a leading position among dwarf flowering shrubs as well as in the perennial border from the great beauty of its flower clusters. *Acanthus spinosus*, bold and effective, having deeply-serrated spinous leaves and tall flower spikes bristling with spines. It is easily raised from seed, which is not expensive. Then there was the Double White Bramble (*Rubus flore albo-pleno*) in great beauty, and also the Double Pink variety *R. roseo-pleno*, both fine trailing plants growing into large bushes, so ornamental that it is matter for regret they are not more common. *Cornus mascula* variegata, one of our best variegated shrubs, was also good here, and of *Pittosporum undulatum* there was a wonderful example 7 feet high and nearly as much in diameter, the black-stemmed branches and handsome glossy foliage being even more striking than the fine form of the shrub, which was in excellent health, as was a still more extraordinary example of the Blue Fiddle Wood—*Citharexylum cyanocarpum*, usually regarded as a denizen of the stove, but growing freely enough here in the open garden, the Myrtle-like foliage curiously alternating with spines. *Colletia cruciata* was also growing freely, and was apparently quite established. I was not surprised at this, having heard of its answering tolerably well in some other gardens.

The shrub most used to clothe the banks of this and other enclosures was the Japanese Privet—*Ligustrum japonicum*, a handsome shrub much in favour in the public gardens of London, and which Mr. Carne has found to grow vigorously in exposed situations, apparently revelling in the sweeping winds that prove fatal to so many other shrubs. Certainly nothing could be more satisfactory than the deep green glossy hue of its broad handsome foliage, which forms such an admirable foil to its bold white flower spikes.

Among other enclosures we found whole banks of *Cyclamen* and curious lawns composed of a mingled growth of grass and Primroses of all sorts of colours. Several magnificent specimens of *Gunnera scabra*, with leaves upwards of 4 feet in diameter and numerous spikes of yellow flowers and seeds. Hard by there was a fernery, the Ferns being planted among some rocks in large numbers, comprising, I should think, all known, and perhaps many unknown, varieties—certainly unknown to me. Among them I was glad to see a conspicuous position given to *Lastrea recurva*, not very common, but one of our best hardy Ferns, always beautiful, but especially so in winter, when its pretty bright green fronds stand out so conspicuous while most other varieties of its species have lost all beauty. A charming little Alpine plant, *Mentha corsica*, was clothing many of the rocks with dense cushions of tiny green foliage. The Cornish Moneywort, *Sibthorpia europæa*, also found a suitable home among the rocks, and I must not forget

to mention that the true Cornish variety of Maidenhair Fern was well represented.

The garden abounds in snug little nooks and cosy enclosures, every one of them turned to account to test the merit and hardiness of plants, shrubs, and even trees collected from distant sources, widespread as the world itself. Near the large fernery we pause to admire a curious and very beautiful species of Bramble from Australia—*Rubus australis*, with hardly any leaves, the green flexible branches being thickly set with little white spines. Further on we find an example of the "Omboo," the only tree found on the South American Pampas. Then we come upon an irregular heap of rocks turned to account for a collection of Alpine plants, a Prostrate Willow brought from the High Alps being pointed out as worthy of notice for its pretty spreading growth. Near the rocks some Fig trees heavily laden with fruit were worthy of special notice, the fine crop being attributed to careful manipulation of the growth the previous season, every strong shoot having had its tip nipped off when it was a few inches long, inducing it to put forth three or four other shoots, Mr. Carne having thus in his culture followed the lead of Nature; for as the Fig bears its fruit near the tips of the shoots made a year before, so "the more shoots the more fruit" was the guiding principle in his treatment. Of other rare shrubs I may add the Japanese *Desmodium penduliflorum* laden with lovely bright purple flowers, quite hardy here, as indeed it is also in the neighbourhood of London; the Silvery-variegated Bramble was also bright-looking and attractive; *Arundo conspicua*, too, was in full beauty. I note this from a desire to see this fine Grass more frequently; it throws up its elegant plumes quite two months before the Pampas Grass, and is highly ornamental.

Many other choice plants and shrubs must be left unnoticed, for the garden is literally crammed with botanical rarities, affording convincing evidence of a devotion to and success in collecting and cultivating them that is rarely met with. Mr. Carne is emphatically a pioneer, so thoroughly in earnest as to propagate and offer plants of his choicest novelties to his friends and neighbours, for his is no selfish love. "Add to my pleasure by sharing it with me," says he; and thus wisely and well does he strive to foster and render popular a science which he loves and understands so well.

The glass houses contained plants of a similarly uncommon character. A collection of such succulents as *Opuntias*, *Stapelias*, *Cacti*, and others remarkable for the quaint guise of their growth and the beauty of their flowers were there in considerable numbers. The most tender sorts of exotic Ferns, too, have a house specially devoted to them. All were thriving; not a sickly plant did I see. And this is perhaps the most extraordinary thing about this garden where everything is extraordinary—that although the whole of the plants were new, rare, or uncommon, yet the healthy vigorous appearance of every one of them showed that each received the treatment best suited to its requirements, and my only regret was that my hurried visit prevented me from learning more of skill so well applied and work so thoroughly well done.—EDWARD LUCKHURST.

PREPARING FOR CHRISTMAS.

SCENE Covent Garden Market; date December 18th; time 5 A.M. Weather delightful, as clear and mild as a May morning. Produce enormous, visitors numerous, vendors noisy, purchasers active. No time and no place could probably have afforded such evidence of the magnitude of preparations for the coming festival, at least so far as garden products are concerned. The most striking feature of the Market were the mountains of Holly, richly berried and brilliant in the gaslight.

Those who have not seen this year's Holly harvest as garnered at Covent Garden can form no conception of its enormous extent. For some days past small donkey carts, large horse vans, and railway trucks have been conveying their loads of Holly to the metropolis. The streets contiguous to the Market were almost blocked with Holly, which the "costers" scrambled for and distributed over the thousands of homes of the city and environs. But there was enough for all and to spare, for the supply was as bountiful as it was brilliant. Mistletoe was much less plentiful, and was quickly "collared." Christmas Trees—young Spruce Firs—were represented by many thousands. Laurel and other evergreens were not in great request; the trade in these was spoiled by the extraordinary plethora of Holly.

FLOWERS.—Dear at all times to Londoners are flowers, but at Christmas they are indispensable. The immense resources of the market growers and their cultural skill were admirably displayed. Primulas sturdy in growth, rich in foliage, and remarkable for the high "strain" of the flowers, were there in "loads." Lilies of the Valley, Dutch Hyacinths, and early Tulips were in charming profusion; *Ericas*, *hyemalis* being excellently grown; *Veronicas*, *Cyclamens*, *Poinsettias*, *Epiphyllums*, a few *Azaleas*, *Echeveria retusa*, and *Solanums* were the staple floral products offered, and quickly purchased, at this great mart in preparation for the coming festival. Bouquets were composed chiefly of white Roses, pink *Geraniums*, *Camellias*, *Eucharis*, *Azaleas*, *Bouvardias*, and Ferns; feathery Grasses in divers colours and Everlastings formed in tasteful devices were attractively displayed; and, as if these were not sufficient, artificial flowers and sprays were almost as "loud" in their extravagant colours as their vendors were in shouting their charms.

FRUIT.—How deficient is the supply of British-grown fruit for the Christmas requirements of the head quarters of the nation was evidenced by the tons of Apples sent from America and the Continent. Pears are large in size but limited, and Grapes somewhat disappointing. The finest were *Gros Colmans* and *Alicantes*; the largest bunches were of *Gros Guillaume* at Mr. Webber's, who also sustains his fame as an importer of Pine Apples. Bananas, Shaddocks, and Tomatoes were represented, while Nuts and Oranges were apparently sufficient to supply a nation, much more a city.

VEGETABLES.—Immense and superior was the supply. Roots of all kinds, from the thousands of sacks of Potatoes, piled-uploads of Turnips, Carrots, and Parsnips, to the hampers of Onions and Beet and bundles of Horseradish were provided for the million of a quality equal to that at the disposal of the aristocracy. Savoy, Coleworts, and Kale composed the bulk of green vegetables; but Brussels Sprouts were plentiful and excellent, and Broccoli was also well represented. Rhubarb and Seakale, all kinds of salads, Cucumbers, Mushrooms, and Truffles were provided to meet the demands of a populace preparing for a feast. Herbs also, especially Parsley and Sage, were provided on the same scale of prodigality. Yet enormous as was the display of garden products it was only an instalment, and at least two more similar markets will be held before the preparations are completed.

The immense provision cannot be contemplated without recognising how great is the industry of horticulture; how necessary it is in ministering to the wants and comforts of life; how important it is as being the sole means of livelihood of thousands who are engaged in it; and how great, natural, and intimate is the alliance between city and country—between homes and gardens, lords and labourers! Let us hope this dependance on each other may be more and more recognised, and the interchange of good wishes incidental to Christmas will not be peculiar to that period alone. Covent Garden tells how much of benefit and pleasure gardens afford, and how worthy they are of the best efforts of all who are engaged in their cultivation.—A CITY MAN.

COMPARATIVE MERITS OF PEAS.

DURING the past season I had the opportunity of testing about sixteen varieties of Peas, and possibly a few remarks on their respective merits may be of service to some who limit their seed bill, and consequently the introduction of novelties also.

The past season was, and in this district often is, very unfavourable to the growth of Peas. Cold easterly winds were very prevalent till late in May, and from that time till the middle of September we had not a good soaking rain. Ours is rich soil on a clayey loam subsoil, and autumn sowings are generally failures. None of the Peas were sown on shallow soil. Preference was given to double-dug ground, and from these sowings we obtained our best and most prolonged pickings. The second earlies and very late sorts were sown on the ridges between the Celery trenches. They thus obtained two spits of soil, as the spaces between the trenches were previously dug. The remainder were sown in trenches prepared as for Celery. This plan is very well where there is plenty of water at hand, but such was not the case with us. The soil in the trench shrank from the sides, and a poor crop was the result. In consequence of continued wet weather we were unable to sow the earlies till the end of February, and even then had to cut out the drills with the spade and replace

with drier soil. I will now briefly describe the varieties grown:—

Dickson's First-and-Best was first by a few days, and is a good early, equalling any of the Ringleader type; William I. is, however, decidedly the best yet tried here for early work. This variety is strongly recommended for late sowing by a well-known vegetable grower, and I was informed by a gentleman who had tasted this Pea in October that it equalled in flavour any Pea he had tasted through the season. Next spring I intend sowing this variety on turves under glass to be subsequently planted in the open border, and seed saved from the produce will be sown for late work. Early Matty, an old variety sent me by a friend who had grown it for thirty years, closely followed William I. for earliness. It is remarkably vigorous and productive and of fair flavour.

Dickson's Favourite was grown this season as a second early, but will in future be discarded in favour of Dr. Maclean. This variety has become very popular, especially as an exhibition variety. It is a very useful Pea, being dwarf (2 feet 6 inches), and very prolific, the pod long and well filled, but with us not quite so well flavoured as expected. Hair's Dwarf Mammoth is not unlike Dr. Maclean, but not so good. It is very useful as a second early, and also for late work, but will be discarded in favour of the Doctor. Huntingdonian is an excellent second early, height 4 feet, a good cropper, and the flavour unsurpassed. It is a type of the Champion of England, but it is in every way superior to and will be grown in preference to it. G. F. Wilson for flavour and size of Peas was unsurpassed, but both this and Laxton's Fillbasket could not stand the dry weather, coming into bearing prematurely. I shall give them another trial. Veitch's Perfection still ranks as a first-class Pea either for main or late crop. Giant Emerald Marrow (Sutton) is a very distinct and fine Pea. It is very vigorous and productive, but as the Duchess of Edinburgh (Sutton) comes into bearing about the same time, and is a better quality Pea, it will be grown in preference to it. The last-mentioned Pea is decidedly a fine Pea, and may be described as an improved and early Ne Plus Ultra. Williams' Emperor of the Marrows is another excellent Pea, and both this and Culverwell's Prolific Marrow ought to be grown for late work. The former is the earliest, but for quality and appearance I give the preference to the latter. Ne Plus Ultra completes the list, and is the best for very late work. All five of the last-mentioned Peas are tall; some of them, notably Williams' Emperor, reached 7 feet.

Many acres of Peas are annually grown for market in this neighbourhood. The crop sometimes proves very remunerative, and, what is still better, the picking gives employment to numbers of women and children. The varieties grown for early picking are principally Sangster's No. 1 and Caractacus, the latter being considered the best. Laxton's Supreme, Veitch's Perfection, Yorkshire Hero, and Blue Scimitar are all largely grown, and some of the more enterprising growers are raising a stock of Dr. Maclean and other new varieties.—W. IGGULDEN, Orsett Hall, Essex.

PORTRAITS OF PLANTS AND FLOWERS.

LILUM NEILGHERRENSE. *Nat. ord.*, Liliacæ. *Linn.*, Hexandria Monogynia.—“This is the only Lily of the mountains of Southern India. It inhabits the Neilgherries and Pulnies at an elevation of about 8000 feet above sea level. It is closely allied to *L. Walliechianum* of the Himalayas, *L. philippinense* of the Philippine Islands, and *L. longiflorum*, japonicum, and Brownii of China and Japan. It was introduced by Mr. Thomas Lobb in 1862, but failed to become established, and has lately been imported again in considerable quantity by Messrs. Veitch and others.”—(*Bot. Mag.*, t. 6332.)

ALLOPLECTUS PELTATUS.—“Introduced by Messrs. Veitch from Costa Rica, where it was collected by the late Mr. Endres, and flowers from July to the present month (November) in our stoves. This is another of those Gesneriads remarkable in having one leaf of each pair permanently rudimentary.”—(*Ibid.*, t. 6333.)

STENOSPERMATUM WALLISII. *Nat. ord.*, Aroidæ. *Linn.*, Icosandria Monogynia.—“One of Mr. Wallis's important discoveries in tropical America, introduced to cultivation by Messrs. Veitch; exhibited two years ago in flower, and described, together with an excellent woodcut and detailed analysis, by Dr. Masters in the *Gardeners' Chronicle* about the same time. The pure ivory-white nodding spathes freely developed amongst the clustered dark shining green leaves render this plant one of the most valuable of our stove Aroids for ornamental cul-

ture. It belongs to a small genus consisting altogether of but four or five species peculiar to Columbia, Peru, and northern Brazil.”—(*Ibid.* t., 6334.)

GLADIOLUS ECKLONI. *Nat. ord.*, Iridacæ. *Linn.*, Triandria Monogynia.—“This is a most distinct and beautiful species of *Gladiolus*, marked by its comparatively dwarf habit, ensiform leaves, and, as compared with the best-known Cape species, small flowers, with innumerable minute spots of bright red-purple on a pale groundwork. It is widely spread in South Africa, extending from Uitenhage northward through Kaffraria to Natal, and inland to Basutaland and the Transvaal. As it ascends to a height of 3000 or 4000 feet on the Katberg we may fairly expect it to be as hardy in England as any of the Cape species. For the specimen figured we are indebted to Mr. Elwes, who flowered it at Cirencester in October. He procured it from Mr. Wilson Saunders, who had it from Mr. Thomas Cooper from the Drakensberg. We confidently expect it will prove a popular favourite.”—(*Ibid.*, t. 6335.)

ERANTHEMUM LAXIFLORUM. *Nat. ord.*, Acanthacæ. *Linn.*, Diandria Monogynia.—“For this very desirable addition to our autumn-flowering Acanthads we are indebted to Messrs. Veitch, for whom it was introduced from the New Hebrides. Specimens are also in the Kew Herbarium from the Fiji Islands, collected by the late Dr. Seemann, where, he states, that it is frequently cultivated by the European settlers as an ornamental plant. It is a shrub or half-shrub, attaining from 2 to 4 feet in height, wholly glabrous.”—(*Ibid.*, t. 6336.)

NOTES AND GLEANINGS.

THE ANNUAL DINNER OF THE DURHAM, NORTHUMBERLAND, AND NEWCASTLE HORTICULTURAL AND BOTANICAL SOCIETY was held at the Alexandra Hotel, Newcastle, on the 17th inst. The chair was occupied by the Mayor, Mr. Thomas Robinson, in the absence of Col. Joicey, the new elected President for the forthcoming year. This Society had for some years only a feeble existence, but it has suddenly increased to prodigious dimensions, chiefly through the indomitable exertions of the Hon. Secs., Messrs. Taylor and French: The members now number about four thousand, while the income has been for the last year nearly £2200; during preceding years it scarcely ever exceeded £300. The Society has made window gardening a chief feature, and has assisted the flower-missions in the district. It was a successful meeting of a flourishing Society.

—We are glad to observe from an advertisement in another column that the Council of the Royal Horticultural Society have decided to appoint an ASSISTANT SECRETARY, and we trust they will be successful in securing the services of a gentleman possessing the necessary technical qualifications together with the business aptitude requisite for the efficient performance of the important duties pertaining to the office.

—How valuable ORCHIDS are for winter decoration, writes a correspondent “L.” the fine display in Mr. B. S. Williams' nursery at Holloway affords sufficient evidence. Amongst those now in beauty are *Calanthes Veitchii*, *vestita luteo-oculata*, and *rubro-oculata*. *Cypripediums* comprise *Dayanum*, *venustum spectabilis*, *Crossianum*, *Harrisianum*, and *insigne*. *Odontoglossums* are represented by *Inseleyi*, *Alexandra*, *rubescens*, *Andersonianum*, *luteo-purpureum*, *Rossii*, and *Rossii majus*; *Oncidium*s by *ornithorhynchum*, *tigrinum*, and *papilio*; *Vandas* by *tricolor flava*, *tricolor superba*, and *tricolor insignis*; *Lælias* by *autumnalis* and *præstans*; and *Dendrobiums* by *nobile* and *bigibbum*. *Cymbidium Mastersi*, *Zygopetalon Mackayi*, *Saccolabium giganteum*, *Rodriguezia secunda*, *Maxillaria picta grandiflora*, and *Masdevallias ignea* and *polysticha* also contribute to the display. *Griffinia hyacinthina* is also flowering, and is extremely attractive. Amongst the ornamental-foliaged plants *Croton falcatum* is highly effective by its fine leaves, which are nearly 2 feet in length and brilliantly coloured.

—A CHESHIRE correspondent states that *AGERATUMS* are still uninjured by frost in his garden, and he has potted a number of plants, which will yield flowers for cutting for the next two months. Scarcely any plants “lift” better than *Ageratums*, and few flowers are more valuable during the winter months for vase decoration.

—THE HON. and REV. J. T. BOSCAWEN states that the INDIAN STRAWBERRY (*Fragaria indica*) has become naturalised in Cornwall. It is a distinct species, with pretty yellow flowers, and was introduced to this country in 1805.

—“W. P. J., Mortlake,” writes approvingly of Williams'

MATCHLESS RED CELERY. He describes it as being not only one of the most hardy sorts grown, but very solid, crisp, and of unsurpassable quality. It resists both wet and frost, he says, better than any sort he has cultivated.

— A "GROOM AND GARDENER," writing to us on CHRISTMAS FLOWERS, states that he neither regrets the decay of the beautiful white *Anemone Honorine Jobert* nor envies his neighbour at the Hall the possession of the aristocratic *Eucharis* so long as he has half a dozen large clumps of the Christmas Rose, similar to those recently alluded to by Mr. Robson, and as many large hand-lights to place over them. With a supply of these beautiful hardy winter flowers, a few spikes of the scarlet *Schizostylus*, protected in the same way, a few sprays of the bright yellow *Jasmine* from a south wall, a dozen expanding buds of the old Monthly China Rose gathered from a bush in a sheltered corner, a little Holly, sprays of Conifer, and a few fronds of Ferns, he can furnish a vase for Christmas decoration in such a manner that, as he says, "no one need be ashamed of." The vase, he suggests, should be filled with very moist and clean silver sand, in which the flowers, &c., can be arranged more artistically than in water, and they continue fresh equally long as if placed in water.

— ANOTHER case of SEED-DYEING has been the subject of magisterial inquiry, and with results that will commend themselves not only to purchasers but to all honest vendors of seeds; indeed, it is gratifying to observe that it is by the action of seed merchants that the law is being enforced against dishonest practices in connection with the important trade in which they are engaged. Mr. W. G. Harley, Guy's Granaries, Mermaid Street, Borough, was on the 15th inst. fined £5 and the cost of the summons for selling one cwt. of Alsike Clover seed, which Mr. Bernard Dyer, F.C.S., had analysed and found to contain 8 to 10 per cent. of foreign seeds dyed with indigo. He produced specimens of dyed seeds which he had separated, including Trefoil, Timothy Ribbed Grass, Thistles, &c. Notwithstanding the defence submitted, Mr. Partridge, the Magistrate, took a common-sense view of the matter, and ruled that "a purchaser who asked for Alsike was entitled to that particular species of Clover and no other"—hence the conviction, which deals a death blow to "dyers" and "doctors" of seeds.

— It is not necessary to visit gardens and shrubberies in the country to obtain evidence of the great crop of HOLLY BERRIES that is produced this year. The streets of London have recently borne ample testimony on the subject, for piled-up loads of Holly glistening with myriads of scarlet bead-like fruits have daily arrived to deck the shops and homes of the great metropolis during Christmastide. The contrast between this year and last in the "commerce" of Holly is very striking. Last year the sprays were nearly fruitless, this year they are much more thickly clustered with the coveted berries than we ever remember to have seen them during many years' observation.

— We are informed that the spring Show of the READING HORTICULTURAL SOCIETY will be held on May 23rd, and the summer Show on August 22nd.

— THE RAINFALL for last November at the gardens, Nannau Park, upwards of 700 feet above the sea level, was 11.56 inches. Rain fell on twenty-six days; 1.77 inch fell on the 11th alone!

— We recently recorded that Mr. Cannell was awarded a first-class certificate by the Floral Committee of the Royal Horticultural Society for White Vesuvius Zonal Pelargonium. We have seen flowers of another sport which Mr. Cannell has obtained from Vesuvius, which gives a new colour for bedding purposes. As near as its colour can be described it is a very high-toned salmon, or, in other words, salmon suffused with scarlet, with a white eye; it is quite different to other salmon zonals. In habit of growth and freeness of bloom it is identical with the original, and is a very promising variety.

— We are informed that eight prizes were gained at the Birmingham Show for Potatoes grown with AMIES' MANURE. Fine samples of produce were exhibited as having been grown by the manure on soil which those who have seen the land describe as naturally poor and "worn-out." It produced average crops the first year, and ever since the produce has been good.

— We recently incidentally alluded to *EUCARIS AMAZONICA* as grown by Mr. Denning in Lord Lonsborough's garden at Norbiton. We never saw such a display of this charming

flower in December as is there produced; and the mode of culture is of the simplest. The plants are planted-out in a well-heated pit; they have grown like Rhubarb, and are now yielding such a crop of flowers as we have never seen equalled in number nor surpassed in quality. Mr. Denning has assuredly made a great "hit" in thus easily providing a supply of this esteemed flower in such profusion for Christmastide decoration.

— THE AMERICAN DODDER recently noticed as having attached itself to a plant of *Forsythia suspensa* at Glasnevin is not, according to a closer subsequent examination of it by Dr. Moore, *Cuscuta cephalanthi*, but *C. reflexa*.

— FEW plants are more worthy of culture for conservatory decoration during the winter months than *DAPHNE INDICA RUBRA*. The glossy green foliage and rich rosy flowers are alike attractive; but the chief claim of this plant to notice is its powerful and delightful perfume. The flowers are also remarkable for their lasting quality, continuing fresh and enjoyable for three months. Small plants in 4 and 5-inch pots are particularly valuable for various purposes of decorations in rooms and greenhouses during the months of December, January, and February. This variety is not only the best in colour, but is the most free in growth of the somewhat slow-growing section of the genus to which it belongs.

— A SELECTION of flowers of seedling *POLYANTHUSES* from Mr. Cauldwell, florist, Wantage, suggests how useful these flowers are for winter decoration. Their vigour and freshness also affords evidence of the mildness of the weather in Berkshire. Many of the flowers are good, some excellent, and all gay. A crimson self Pansy in the same box is a promising variety; the colour is distinct and rich, and the petals are of great substance.

— We have received from Mr. Henry Hooper, Vine Nursery, Widcomb Hill, Bath, a number of *PANSIES* of remarkable beauty. For size, form, substance, and well-defined colours combined we regard them as amongst the most meritorious blooms that have come under our notice. The colours range from pure white with violet-purple blotch to rich crimson maroon. The yellow grounds and selfs are also very rich. The fancy varieties are particularly showy; the blooms are well formed and the lacings well defined. It is clear that Pansies are not exclusively northern flowers, but are hardy flowers for all gardens; and such varieties as those now before us cannot fail to please when they are well cultivated. We have not received a brighter "Christmas-box" than the one composed of these Bath Pansies.

— For bright appearance and excellent quality combined "A VILLA GARDENER" writes that no variety of Cabbage equals Sutton's GOLDEN BALL SAVOY. It is as bright in colour, he says, as Golden Feather, and is particularly tender when cooked and delicate in flavour.

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

KITCHEN GARDEN.

THERE is not much difference in the details of our work from what has been previously given. The last two seasons have shown the importance of an efficient system of drainage, especially on heavy wet soils, and when other work cannot be proceeded with this may be done, and it ought to be done well. A main drain should be laid at the lowest part of the grounds, and the smaller drains, about 16 or 20 feet apart, should have their outfall into this. The outfall of the main drain should always be kept clear, and not be choked with any accumulation for some distance from its mouth. In heavy wet soils, which are most retentive of moisture, there will be a continuous flow of clear water all the winter in such seasons as this. When a new garden is formed on such soils the first step towards laying it out is to begin at the drainage. It may cost a trifle more to do it thoroughly, but this extra outlay is more than compensated by the satisfaction of knowing that the work will not have to be done again after the walks are formed and the trees just established in the borders.

It has been our lot to work in gardens composed of the heaviest soil, such as when it was dug it clung to the spade in wet weather like marl. We have also had to do with soil of the lightest description, and where the gravel cropped up to within a few inches of the surface. We certainly prefer the heavy soil, as it can be much improved by judicious trenching and manuring. If the ground has not been worked to a greater depth than 10 or 12 inches it is not wise to go down more than 3 inches more the first time of trenching it, and this can be done

By digging it two spits deep, placing two layers of half-decayed stable manure in the trench, one layer at the bottom, and the other after the first spit has been placed over it. If this is done now, so that the weather can act upon the surface for two or three months, the ground may be brought into excellent order for cropping; it will merely be necessary to fork over the surface to a depth of 3 inches. Half-decayed leaves are useful for keeping the soil porous. Road scrapings are also useful for this purpose. Of course the very opposite treatment is pursued with regard to light soil; and heavy loam, if it can be obtained readily, may be laid on the surface to the depth of 6 inches or more, and be dug in. We advise seeds to be sown rather thickly on heavy soil, as on such soil they are likely to be injured. The plants will not grow so freely at first, but they will do so much better afterwards, especially if the weather is dry.

Young Cabbage plants are blown about by the high gales we have had, so much so that the plants work round in a basin formed by the swaying of the stem. This is easily set right by drawing the soil round the stem with a hoe. Slugs are also troublesome, but we kill them by dusting the plants with quicklime at night. Lettuces suffer most from their attacks.

CUCUMBER HOUSE.

The plants are making very little growth, but they produce as many fruits as we require. We still hold to Tender-and-True to produce fruit both in summer and winter. We lost our old stock, but the seedlings obtained from seed sent by Messrs. Veitch vary but little from the original stock. Mr. C. Turner of Slough sent a single seed of a variety that promises well for winter work. We have propagated it by cuttings, and it has borne fruit earlier than any other sort planted with it. This may be owing to the difference in size of the plants when they were put out; still it is very free in bearing. It resembles Telegraph in the size and shape of the fruit, but it is darker in the skin than that sort, and has black spines. Every year there are numbers of Cucumbers reputed to be new exhibited at South Kensington. A large proportion of them are merely variations of Telegraph; but this good old sort has stood the test of many years' trial, and if by careful selection it can be improved or kept up to its own standard we shall not be in want of a good winter Cucumber. Small fruit about 9 inches or a foot long are the most useful for winter, as two may be produced instead of one. Thrips are very troublesome when the house has to be kept close and the leaves dry. We do not know any better way to destroy this pest than by fumigating with tobacco smoke. This must be done with great caution, as the young tender leaves are very apt to suffer from the effects of it when it is applied too strong. Red spider, another terrible enemy, can only be removed by syringing.

VINERIES.

The temperature in the early house started last week has not been increased beyond 45° during cold nights. Our object is gradually to increase the heat until in two weeks more it is about 50°, and not going higher than 55° until the buds are started. When they have pushed a few inches the temperature may be run up a few degrees higher. We do not syringe at all after the buds are fairly started. Before this the stems are merely kept moist by gently dewing them with a very fine rose. If the water is applied with force it washes off the mixture, which is not desirable. We keep up the moisture by fermenting material, and that best adapted for this purpose is composed of equal parts of leaves and fresh stable manure. A bed of this will throw off a large quantity of steam, and its rankness will have gone by the time any buds are started. The steam from fresh manure even in a small quantity is dangerous to the tender young leaves. We cannot obtain leaves, but we use manure in small quantities, adding about two barrowloads at a time to keep up the heat when it shows symptoms of declining. We also place some fermenting material on the outside borders, and cover it with shutters to keep the wet and frost from it. For early forcing the shutters are indispensable, not only to retain the heat in the fermenting material, but to keep the autumn rains from saturating the soil before forcing is commenced.

We have cut all the Grapes in one of the late houses, and placed the stems removed with the bunches in bottles of water in the fruit room. They are not cut from the house containing Lady Downe's, but from a Muscat house where Muscat of Alexandria, Gros Guillaume, and Mrs. Pince are cultivated.

PLANT STOVE.

In one of our houses there is a bed filled with tan. Some of the plants are merely placed on the surface of the bed and others are plunged in the tan. This is according to the character of the plants. If they are healthy and the pots well filled with roots we do not plunge, but a little bottom heat excites root-action in plants that are newly potted or that do not start freely. In a few weeks we shall sift the spent tan, retaining the rough portion and wheeling out the fine, mixing the rough with some new material. The heat from tan is the most lasting; it does not heat very strongly, so that it does not wear out so rapidly as the more violent heat of stable manure. Oak leaves,

if they can be obtained in quantity sufficient for the purpose, are excellent for bottom heat.

Clerodendron Balfourii is certainly one of the most useful plants we have either for training up to cover the rafters or back stage of the stove or as large or small specimen plants. It can be recommended, too, for another reason: While some other climbing plants are very subject to the attacks of red spider, thrips, or mealy bug—the last the most dreaded enemy gardeners have to contend with in the stove—the Clerodendron is never attacked; insect pests cannot live on it. Our summer-flowering plants have now thoroughly completed their growth and we shall remove them into a cool house. Stephanotis floribunda has also made very good growth. The plants in pots will be kept rather dry at the roots; they will have just enough water to prevent their flagging. There is no need to sing the praises of Dipladenias as useful decorative plants. The large showy flowers of D. Brearleyana are esteemed by everyone. D. boliviensis, pure white with yellow throat, is very useful for cutting, and its freedom in producing flowers is not the least point in its favour. Our plants are at present making vigorous growth. We have tried them by allowing them a season of rest all through the winter months, resting them in a temperature of 55° and keeping the soil rather dry, in fact not giving them any water for six weeks at midwinter; but they do not succeed so well with this treatment. They have now a temperature of 65°, and we water them carefully, as Dipladenias do not require very large supplies. They should not receive any water at the roots, especially in winter, until the soil in the pots is drier than most plants would like it. These plants, as well as the Stephanotis, are subject to the attacks of mealy bug, and if this pest is not destroyed now by careful handwashing it is unlikely that the plants will do well in summer. Ixoras should also be carefully examined and all traces of bug be removed. Specimen plants intended to flower in June should now be cut down and be kept in a heat of 65° as a minimum, increasing it to 70° in six weeks from now. It will be difficult to keep up a supply of flowering plants in the stove without Orchids, but we have on previous occasions alluded to the easy manner in which some of the different species may be grown, and the low price at which Calanthes and some others may be purchased permits no excuse to be without them.—J. DOUGLAS.

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post.

NOTICE OF LEAVING (*A Gardener*).—The most correct mode of proceeding is to give notice of your intention before seeking for another place.

REMOVING ROSE TREES (*O. Z.*).—Legally a tenant has no right to remove the trees he has planted, unless he has the landlord's permission to remove them.

STOVE IN PLANT HOUSE (*E. S.*).—We know of no stove that has no chimney to carry the smoke or gases emitted into the open air which is not injurious to the plants in the house.

BLACK MANURE (*J. Davis*).—Not knowing of what it is composed we cannot give an opinion. Quicklime dissolved in water and applied by a brush will kill the moss on the trunks of trees.

APPLES (*H. S. Fraser*).—Write to Messrs. Webber, Central Avenue, Covent Garden Market, for the information.

EVERGREEN SHRUBS NEWLY PLANTED (*H. B.*).—Manure spread on the surface would not injure them.

GREEN ON WALL (*A. Braid*).—The green on the greenhouse wall is caused by the damp air. Quicklime and water applied with a brush will remove it.

PEACH TREES FOR ORCHARD HOUSE (*W. H. B.*).—We only know one of the three you name—viz., Double Montagne. It may do for the orchard house, but we have not tried it, as there are so many better. Maltese (Malta?) is a good Peach and succeeds in an orchard house.

FORCING RHUBARB (*F. J.*).—Place the Rhubarb roots in the bottom of the barrels with the crowns upwards, adding sufficient soil just to cover the crowns, that is all. Dress your border of herbaceous plants with decayed manure, and let the rains wash it in.

ROOT-PRUNING FRUIT TREES (*Inquisitive*).—Dig a half-circle round the trees at the distance of 3 or 6 feet from the stem, according to the size of trees. The largest trees require the greatest distance to be allowed. Cut all the roots by digging a trench 2 or 3 feet deep, then work towards the tree with a fork and lift the roots up, cutting off all that descend. You must not remove the tree entirely, as it will receive too great a check. Place some fresh loam amongst the roots.

HEATING GREENHOUSE (*D. H. W.*).—As it is not convenient to place the pipes side by side, place one above another. It is of no consequence which way in your case. We cannot recommend the valves of one firm more than

another. Use the wash for the Vines that has been recommended in "Doings of the Last Week."

FORCING IMPORTED LILY OF THE VALLEY (Inquirer).—It is not unusual for imported clumps to remain dormant if placed, immediately after potting, in a high temperature. Pot and plunge them in a bottom heat of 75° and not exceeding 90°, and cover with inverted flower pots, taking care that the soil does not become dry. Every crown will grow, and when the spikes are about 5 or 6 inches high then withdraw the pots from the hotbed and place them in a house with a temperature of 65° by day and 55° at night, in which they will expand the flowers and develop the foliage. In the new year they will succeed admirably in ainery started at that time; but the plants must be brought on gradually with the Vines or they will remain dormant or go "blind," which is obviated by bottom heat or a rising temperature, commencing from a low one. If we understand you aright, however, your crowns potted last year never started into growth; if so the same crowns cannot be relied on for forcing now.

POTTING LILIAM AURATUM AND LANCIFOLIUM (Idem).—The roots at the base of the bulbs must not be removed, but the stem roots above the bulbs, also the stems of last year, should be removed. The soil employed for potting being moist, as it ought, no water should be given until the shoots appear, when it should be given so as to maintain the plants in a healthy growing state, increasing the supply with the growth. Plunge the pots in ashes in a cold pit or frame, though they will do outdoors buried in that material until March or early April, when they must be placed in a light airy position in a greenhouse or other structure of moderate temperature.

DRESSING LAWN WITH QUICKLIME (Idem).—The lime must be slacked before placing it upon the grass, as lumps or heaps of lime unslacked will in slacking be so heated as to destroy the grass it rests on. About eighty bushels will be sufficient for an acre, spreading it evenly over the surface, and after a thorough rain remove any stones, rolling well. It will destroy the worms, also moss, but they will again infest the ground after the lime becomes converted into chalk.

BEGONIAS (Inquirer).—There are hundreds of varieties too nearly alike to enable their being named from single leaves.

EARTHWORM (Country Vicar).—It does not eat the roots of plants. It draws worms into the mouth of its hole in the earth to exclude intruders.

ASPARAGUS NEGLECTED (A Subscriber, Freshfield).—Your best plan will be to prepare a piece of ground by trenching and enriching with manure. This to be done as soon as possible, so that it can be exposed to the action of frost, and early in the spring, when sufficiently dry to work cleanly, fork it well over again so as to bring it into a loose friable condition. Immediately you perceive the Asparagus above ground fork up the roots carefully by undermining them, and plant them again in the new bed. This work must be done with as little exposure as possible to the roots. If they are transferred without being dried during the process of removal, and are planted in drills or trenches sufficiently wide so that the roots can be spread out without being doubled, and an inch or two of light soil, such as decayed leaves or vegetable soil, is worked amongst them, levelling in with the ordinary soil and watering with tepid water, they will grow. They will not grow with certainty if removed when in a dormant state, and you cannot eradicate the weeds you name without digging up the Asparagus.

CINERARIAS NOT EXPANDING (E. S. L.).—As you say the plants are healthy we think the flowers will open as the season advances. Keep the roots active, and the plants in a temperature ranging between 40° and 50°. You have perhaps been trying to force them.

INSIDE VINE BORDERS (Puzzled).—Good crops of Grapes have been and are grown when the Vine roots are wholly in inside borders, and at the same time many failures have occurred, chiefly through imperfect waterings. Inside borders are often kept too dry, not only in summer but in winter.

WHITE CAMELLIA (Villa Garden).—For freedom of growth and flowering we do not think any surpasses the old Double White, Alba plena. Fimbriata is very beautiful, but we think a little more delicate than the other.

RAISING CUCUMBER PLANTS (Amateur).—As you only require three plants we advise you to purchase them, or you might secure the friendly aid of a neighbouring gardener who has heat at his command. The most difficult part of Cucumber culture at this early period of the year is in raising strong plants for planting out. You will require as much heat to raise three plants as three hundred.

CLEANING VINES (W. P. Leeds).—As your Vines were infested with thrips we should simply wash the rods with a strong solution of soft soap or Gishurst compound, dissolving 5 or 6 ozs. in a gallon of water. Let the washing be thorough. You will find an old spoke brush useful for the purpose, and the solution may be used at a temperature of 150° immediately the Vines are pruned.

NAMES OF FRUITS (Young Botanist).—The Apple is Hanwell Souring. The Lycopodium is denticulatum. (G. L.).—Old Colmar.

NAMES OF PLANTS (J. W. L.).—We cannot name from such fragments. (Devonian).—1, Plantain (Plantago major); 2, Hypericum Androsæmum. (Sir Astley).—Adiantum cuneatum and Oncidium flexuosum? (T. G.).—1, Justicia speciosa; 6, Santolina, probably S. Chamæcyparissus; the others are florists' varieties.

POULTRY, BEE, AND PIGEON CHRONICLE.

THE POULTRY CLUB.

MEETINGS having been held at the Crystal Palace and Birmingham, during the time of the late shows, of those interested in the formation of a Poultry Club, with the object of placing the exhibition of poultry on a more honourable basis than it has of late held, the following code of rules has been agreed upon as a starting point:—

1. That the Club be called The Poultry Club.
2. That the objects of the Club be—1, The promotion of the breeding and exhibition of poultry; 2, The suppression of fraud and dishonourable conduct therein; 3, The advancement and protection of the interests of poultry breeders and exhibitors.
3. That the Club consist of Members whose annual subscrip-

tion shall be a guinea, and Associate Members whose annual subscription shall be 5s.; that such subscription be payable in advance.

4. That in case the subscription of any Member or Associate Member shall be in arrear for three calendar months his or her name shall be removed from the books of the Club, unless some satisfactory reason be given for the non-payment.

5. That the officers of the Club be a President, a Vice-President, two Treasurers, and a Secretary.

6. That the Committee consist of the officers of the Club, who shall be *ex-officio* members thereof, and eight other members, who shall manage all the affairs of the Club; that three of their number (one at least of whom shall be an officer) form a quorum.

7. That the officers and committeemen be elected annually on the 1st of January by the whole body of members; that half of their number shall annually retire, but be eligible for re-election.

8. That the voting for the election of officers and committeemen be conducted by means of voting papers, which shall be sent by the Secretary to every member.

9. That Associate Members have like privileges with Members save in the election of officers and committeemen, in which they shall have no vote.

10. That a general meeting of the Club be held annually at the Crystal Palace at 3.30 P.M. on the second day of the Show for the discussion of all matters connected with the Club, and that it be in the power of the Committee to convene extraordinary general meetings.

11. That the Members and Associate Members be elected by the Committee.

12. That candidates for election send their names to the Secretary, and that the Secretary forward a list of candidates for election to all the members of the Committee.

13. That if any Member or Associate Member be proved to the satisfaction of the Committee to have acted dishonourably, he or she shall be forthwith expelled from the Club and forfeit all interest in it.

14. That any Member or Associate Member so expelled have the right of appeal to a general meeting of the Club specially convened for the purpose.

15. That the Committee be empowered, *inter alia*—1, To employ a solicitor for the purpose of advising or otherwise assisting its Members and Associate Members; 2, To prosecute defaulting committees of shows; 3, To prosecute railway companies and others for cruelty or other offences; 4, To assist Members and Associate Members in obtaining the solution of legal questions of interest to breeders and exhibitors of poultry.

16. That a list of Officers, Committee, Members, and Associate Members, as well as a balance sheet and report, be annually printed and sent to every Member and Associate Member, to all exhibitors at the last Birmingham and Crystal Palace Shows, and to any other person applying for the same.

17. That the names of original Members be published in the poultry newspapers, and that the names of additional Members be published from time to time.

18. That none of these rules shall be altered except at the annual general meeting, or at an extraordinary general meeting convened for the purpose. That notice of any intended alteration be sent to the Secretary at least two months before the meeting, who shall give notice to the members of the proposed alteration.

The Committee chosen to start the Club are the Hon. and Rev. F. G. Dutton, Hon. and Rev. A. Baillie Hamilton, Rev. Hans F. Hamilton, Rev. W. Serjeantson, O. E. Cresswell, A. Darby, R. A. Boissier, T. C. Burnell, J. Hinton, R. E. Horsfall, T. E. Manby, E. Pritchard, S. Matthew, C. Sidgwick, and R. B. Wood; and it was resolved that this preliminary Committee should be considered as the Committee till March 1st, 1878, when the Club will elect its future officers and Committee. About 120 fanciers have at present signified their wish to join the Club, and others wishing to do so should send their names at once to Mr. O. E. Cresswell, Early Wood, Bagshot, R.S.O., Surrey.

THE PARIS POULTRY SCHEDULE.

To many of our poultry exhibitors who have for some years now been accustomed to a small schedule and entrance form for exhibiting their poultry, the schedule of the Paris Universal Exhibition of 1878 will probably be confusing. There are fifty-six classes, or "categories" as they are termed, where the cocks have divisions to themselves while the hens have to be in trios, except in the case of Turkeys and Geese. In the schedule the French most properly come first, there being classes for Houdans, Crêves, the Flèche (the La being dropped), Mans and Bresse breeds, with another variety French fowl class. The Cochins follow, where, instead of our "Buff or Cinnamon" we find "Yellow or Chamois." Classes there are, too, for Whites, Blacks, and any other variety of Cochin; Brahmas, Dorkings, Hamburgs, and Game have no subdivisions of varieties. The

"seventeenth category" is for "Russian, Malay, and similar breeds," which is surely rather abstruse. Polands are called Padua and Dutch breeds, of which the White-crested have two classes. There is a class for Breda fowls, which we should have thought should have been grouped with the other French varieties. Two Variety classes with categories for Geese, Turkeys, Ducks, and Guinea Fowls finish the poultry department. The Pigeon classification is peculiar. There are but four classes—one for large breeds used for food and one for smaller ditto, another for Doves, and the fourth for Carriers. Rabbits have five classes, one being for Russians.

The prizes are fairly liberal. An art object of the approximate value of five hundred francs may be awarded to the finest collection belonging to the same owner, and a sum of four thousand francs and silver and bronze medals will be distributed among the attendants to whom the notice of the Jury may be drawn on account of the intelligent care they have given to the prize specimens; so there will be a good opportunity for some of the poultry managers of England to come in for a share of this £170, and in cases of equal merit the Jury will take length of service into consideration. Of the other prizes, in the classes for cocks the prizes are thirty francs, twenty francs, and fifteen francs, and in those for hens they are forty-five, forty, and thirty-five francs; besides these a silver medal will be added to all first prizes and a bronze medal to all other prizes. No exhibitor can receive more than one prize in each class. The entries have to be sent to the Secretary Royal Commission Paris Universal Exhibition, 1878, Canada Buildings, King Street, Westminster, S.W., and being "on Her Britannic Majesty's service" the postage need not be paid.

One fact will seem peculiar to our exhibitors; we allude to the Show being judged by special Juries, the third of which will judge the pigs and poultry. Save Capt. Heaton we personally know of no English judge who would give satisfaction to English exhibitors of both pigs and poultry. There is a clause, however, to say each Jury may perhaps be divided into sections, in which case the poultry may possibly have a small Jury to themselves. The awards will be determined upon by a majority of votes, and in cases of equality the President will have the casting vote; their decision will be taken down in writing and signed by the members. All this must appear very strange to us and would appear to require a great deal of time, but art. 16 tells us that the Jury will have two days in which to perform their duties. Wednesday, June 5th, is set apart for the reception of the animals, and the Show closes on the 17th inst. at 5 P.M.

The time of year is a bad one for a poultry show: old birds will be ragged and untidy while the chickens will hardly be ready, though we have seen early chickens win at the Bath and West of England shows, which are generally held at about that time. We anyhow hope our exhibitors and fanciers will patronise the Show, and do what they can for the foreigners to see that the basses cours of Great Britain have even French fowls equal to their own in size, points, and general characteristics.—W.

CARMARTHEN POULTRY SHOW.

THE great number of other shows which were being held in other counties on the same dates doubtless interfered with this one, where the classes, though extremely well divided, had not such tempting money prizes. Some of the classes were small, such as the Spanish, Light Brahmas, and Gold and Silver-pencilled Hamburgs. There was a class for undubbed *Game*, with £5 5s. worth of prize money offered by the Baroness Burdett-Coutts, but only eight entries were made; and though the winner was a good bird, still a £3 first prize would have brought a larger competition from the greater yards we should have thought. *Malays* were a good class of fifteen pens, and the winners were well chosen. In Black *Hamburgs* the winning pair (D. Lewis) were very bright and good. *Polands* only had five pens, but the winners (Hinton) were very good Silvers, fine in crests and attractively marked. In the class for *Houdans* Mr. S. W. Thomas won second with a pair which were not in the catalogue from some oversight; third going to a good pen of Mr. Scott's. In the other variety French class *Crêves* won all the three prizes. The first *Game Bantams* (Parker) were smart and good-coloured birds, and in the other Bantam class Mr. Phelps with his three entries monopolised the three prizes. In the Any other variety of fowl class the Rev. R. Woodgate was first with a capital pen of Japanese Silks, second going to W. Lewis for Black Minorcas. In the Sale class the Rev. D. Williams was first with a fair Dark Brahma. The local classes were mostly of average merit, but call for no especial remarks. Mr. John Martin awarded the prizes, and gave general satisfaction.

MID-SURREY POULTRY SHOW.

THE second annual Show was held at the Drill Hall, Kingston, on Thursday the 13th inst. and following days. The arrangements were an improvement upon last year, but a want of

practical knowledge is still evident with the management. The avenues were too small, and, the light not being good, it was a very difficult task to inspect the birds in the lower pens, and the inconvenience must have added wonderfully to the work of the Judges.

Old cock and hen, cockerel and pullet, was the general classification of the popular varieties of poultry. Considering the space at the command of the Committee, we think they would have done much better had they been less ambitious, and as the season is now far advanced, made one All ages class for each variety, it would have saved a considerable sum in prize money, and they could have spared a little to have increased the value of the other prizes, which would have improved greatly the quality of the birds, as exhibitors do not care to risk good specimens in the chances of an exhibition for prizes of the value of 20s., 10s., and 5s., unless they are very conveniently situated with regard to the Show, as was the case with a large Pigeon exhibitor, who patronised the Show most extensively, and we noticed in only the first five classes of Pigeons he was fortunate enough to take thirteen prizes out of the fifteen offered. We call attention to this in the hope that if the Show is continued the Committee will see the advantage of condensing their schedule, expunging some of the unpatronised classes, and then, by the slight increase we have suggested in the values of the prizes, the competition will become more general and an improvement of the quality in many classes will be secured.

Dorkings, five classes.—The first, a cockerel, we thought the pick of the lot. The winning pullet was in some respects good, but spoilt by sooty feet. *Cochins*, Partridge.—First good, cock sound in colour, hens well marked. Buff were generally very uneven in colour. In the Any other variety we found two good pens of Whites first and second, and a moderate pen of Black third. *Brahmas*, Dark Cock and Hen.—First, cock rather narrow, hen well marked; second a fair pen; third poor. Light Cock and Hen.—First both good in colour, and the cock had a very neat comb for an old bird. We could not find another even moderate pen in this class. Hooked Birds.—The winning Dark had all that the most extravagant lover of leg feather could desire for breeding purposes, but the merit of the first Light hen we could not discover; she was wonderfully hooked, but very short of leg feather, the third toe being quite uncovered. Cockerels a poor class. First a pretty bird, second deserved his position, third crooked in the toe. Pen 89, a pair of Lights, we much preferred. Pullets.—A very evenly-marked Dark first; second a well-shaped White, nicely marked in the hackle, and with a proper quantity of leg feather. *Game*.—Black Red cocks a fair class. Hens.—First a very stylish bird, short and hard in feather. Duckwing.—Pen 129 we liked in many respects better than the winner, but he looked out of condition and soft. The remaining classes were poor, the Any variety of hen containing only one entry. *Hamburgs*.—Mr. Long exhibited two or three good pens. The first Leghorns were good. *Polands* only one entry. *Malays* a fair class. *Spanish*.—First deserved their position, the cock had a face of good quality and was well shown, hen was deficient in lobe. Pen 170 contained a beautiful hen with a grand face and well-shaped lobe. Pen 171 a cock almost as good as the winner. Both these pens belonged to the same owner, had he matched them differently he would have run very close for the first prize. *Andalusians*, five entries, all good. *Bantams*, Red.—We thought the second pen showed more style than the winner. Any other variety, Ducks were first and second. Ducks were generally good.

Pigeons.—Pouters.—In Pied cocks Mr. Herrieff succeeded in obtaining a second prize with a good Red. This was the only pen shown in opposition to Mr. Baker in the three Pouter classes. Carriers obtained more support. Dragoons were capital classes. Blue cocks first and second, good coloured birds, and nice and distinct in the bar; third had a good Dragon head, but was a little cloudy in the bar. Hens.—First a good bird, second showed a little too much of the Carrier. Dragoons, any other colour.—A very sound-coloured Yellow first. A capital Chequer, a good coloured Red, and several very good birds were to be found here. Hens.—Yellow first and third, the competition being close. Jacobins another good class. Mr. Hardy showed a Red that we thought might have been higher in the prize list. English Owls, nine entries, and six first-class pens. Turbits and Fantails were well filled, and so good that many former prize birds only here obtained a card.

The Show closed on Saturday, a most inconvenient day for the return of the birds.

POULTRY.—DORKINGS.—Grey—1, H. Allen. 2, C. L. Boyce. 3, H. Brown. Any other colour—1, S. Newick. 2, Miss Strange. Cockerel—1, H. Brown. 2, G. Masters. Pullet—1, S. Newick. 2, Mrs. Radcliffe. 3, R. A. Baker. COCHINS.—Partridge—1, T. J. Saltmarsh. 2, Mrs. Radcliffe. 3, C. Marshall. Buff—1, Rev. J. Buckmaster. 2, Mrs. W. Paxton. 3, Mrs. H. J. Triton. Any other colour—1, J. Turner. 2, R. A. Boissier. 3, A. R. Buckland. Cockerel—1, Mrs. Radcliffe. 2, Dr. J. A. Hicks. 3, Miss Swann. Pullet—1, Mrs. Radcliffe. 2, Rev. J. Buckmaster. BRAHMAS.—Dark—1, Rev. J. D. Penke. 2, J. Long. 3, Miss Strange. Light—1, G. W. Petter. Hooked Dark—1, L. C. C. R. Norris. 2, J. Long. 3, Rev. J. D. Penke. Hooked Light—1, J. Long. 2, E. Durand. 3, G. W. Petter. COCKERELS.—1, L. C. C. Norris. 2, F. Chapman. 3, J. Long. PULLETS.—1, L. C. C. R. Norris. 2, G. W. Petter. 3, J. Long. GAME.—Black Red.—

Cock.—J. Mrs. H. J. Tritton. 2 and 3, W. Docksey. *Hen*.—1, T. Docwra. 2, G. H. Harnsworth. 3, J. Montgomery. *Duckwing*.—*Cock*.—1 and 2, W. Docksey. 3, F. Edwards. *Hen*.—1, W. Docksey. 2, T. Docwra. 3, B. Mollett. *Any other colour*.—*Cock*.—1, R. Osborn. 2, J. Knight. 3, H. R. Emms. *Hen*.—1, T. Docwra. 2, Harnsworth. *Golden-spangled*.—1, J. Long. *Golden-pencilled*.—1, F. G. Pointer. 2, J. Long. 3, W. L. Bell. *Any other colour*.—1 and 3, J. Long. 2, F. Edwards. *LECHORNS*.—1, H. J. Tritton. 2, A. Kitchen. 3, Miss Handfield. *POLANDS*.—1, C. H. Huish. *MALAYS*.—1, H. J. Tritton. 2, T. Docwra. 3, J. F. Strugnell. *SPANISH*.—1, J. Woods. 2, G. Thomas. 3, A. Atlee. *MINORCAS*.—1, R. J. Brewer. 2, T. Jackson. 3, F. W. Hullett. *ANDALUSIANS*.—1, J. Wiggins. 2, W. Brooke. 3, Mrs. M. A. Wilson. *FRENCH*.—1, H. Stephens. 2, W. Cuckack. 3, W. H. Ward. *BANTAMS*.—*Red Game*.—1, G. Vigor. 2, W. Adams. 3, R. Osborn. *Blue Game*.—1, G. Vigor. 2, W. Adams. 3, J. Long. *Sebrights*.—1, F. O. Davis. 2, F. W. Hardwicke. *Any other variety*.—1, H. Stephens. 2, Equal 3, F. C. Davis. W. Adams. *Ducks*.—*Aylesbury*.—1, Mrs. Radcliffe. 2, Mrs. Brasse. *Rouen*.—1, P. Ogilvie. 2, Mrs. Radcliffe. *Any other variety*.—1, J. C. Looker. 2, H. Allen. 3, P. Ogilvie.

PIGEONS.—*POUTERS*.—*Pied*.—*Cock*.—1, J. Baker. 2, J. Herrieff. 3, J. Baker. *Hen*.—1, 2, and 3, J. Baker. *Any other colour*.—1, 2, 3, and *vhc*. J. Baker. *CARRIERS*.—*Black or Dun*.—*Cock*.—1, 2, and 3, J. Baker. *Hen*.—1, W. Hooker. 2 and 3, J. Baker. *vhc*. T. H. Goodman. G. H. Gillham. *Any other colour*.—1, W. Hooker. 2, J. Baker. 3, G. H. Gillham. *Young*.—*Black or Dun*.—1 and 2, J. Baker. 3, W. Boxall. *vhc*. C. Ord. *Any other colour*.—1, G. H. Gillham. 2, W. Hooker. 3, C. Ord. *DRACOONS*.—*Blue or Silver*.—*Cock*.—1 and 2, W. B. Tegetmeier. 3, C. Howard. *Hen*.—1, J. Baker. 2, Hon. W. Sugden. 3, Cox and Norris. *Any other colour*.—*Cock*.—1, A. Leth. 2, T. C. Burnell. 3, J. Webb. *vhc*. C. Howard. *COX & BAKER*.—*Hen*.—1, J. Baker. 2, J. Edwards. 3, C. Howard. *SHORT-FACED TUMBLERS*.—*Almond*.—1, 2, 3, and *vhc*. J. Baker. *Any other colour*.—1 and 2, J. Baker. 3, G. H. Stevens. *BARBS*.—1, 2, and 3, J. Baker. *JACOBIANS*.—1 and 2, J. Baker. 3, G. Hardy. *OWLS*.—*English*.—1, J. Dancer. 2 and 3, T. G. Sprunt. *vhc*. J. Baker. *Foreign*.—1, 2, and 3, J. Baker. *TURBITS*.—*Cock*.—1, J. Baker. 2, T. C. Burnell. 3, G. Hardy. *Hen*.—1, C. A. Crafer. 2, T. C. Burnell. 3, W. F. Stevenson. *FANTAILS*.—1, 2, and 3, J. Baker. *CARRIERS*.—*Blue Game*.—1, 2, and 3, J. Baker. 3, W. Cuckack. *Short-faced*.—1, C. F. Herrieff. 2, W. Stevenson. 3, B. Brown. *ANY OTHER VARIETY*.—1, J. Baker. 2 and 3, W. H. Gower.

JUDGES.—*Poultry*: Mr. W. Nichols. *Pigeons*: Mr. P. H. Jones.

LEEDS POULTRY SHOW.

This excellent annual Show was held on Tuesday the 11th, and two following days, in the Smithfield Market sheds. The great increase of entries has rendered the space at command far too small for the purpose, and it is contemplated to erect a grand hall for the Show, and this would be a great boon to both Judges and exhibitors, as the birds are at present placed three tier high, which in all cases places many at great disadvantage, and still the whole is managed in a most exemplary manner.

In poultry the *Game*, as usual, headed the list with a fine display; the winners were exceedingly well selected, the cup going to a grand Brown Red cock. The larger varieties were well represented, and the *Hamburgs*, of which there were more than one hundred pens, a show in themselves, the cup going to a capital pen of *Spanish* in the first-named section, although we have seen the cockerel look in better order. *Bantams* were excellent, the cup going to a splendid pen of Black Reds of this year.

In *Pigeons* some exhibitors' entries had been returned, as the entry fees had not been remitted with them (a rule we would recommend to the notice of other committees), and in consequence the numbers were not as large as we expected. *Pouters* headed the list; the first, a grand young Blue cock in splendid show, won the cup for the best bird in all classes; the second (a White) was a very showy bird. *Carriers*.—First a good all-round bird, but the rest poor. In *Short-faced Tumblers* Almonds won, but these were not as good as we have seen from the same exhibitor. *Long-faces* a grand class, perhaps the best we have ever seen. *Owls* poor except the first. *Jacobins* were very fine, the prizes going to a lot we have never heard of before. Both were Reds. *Turbits* were a puzzle, and were placed too high for a real thorough satisfactory inspection. The first a Blue and second a Red, counted pretty near perfection. *Fantails* good. For a thankless office commend us to judging a class of *Nuns* placed at such an elevation, every bird trimmed, and only a choice as to which is most perfect with least trimming. *Dragoons* very good; both the winners *Yellows*. *Antwerps* a bad lot; the best in *Short-faces* left out on account of excessive trimming, but the *Long-faces* were very good. *Maggies*.—The winners, Red, were excellent. *Swallows*.—First Red and second Black, both very good. The *Variety* class was a good one. First a *Fairy Swallow*, such as is rarely seen; and second a *Blondinette*.

Rabbits were a good entry, considering that so many other shows were held at the same time. *Lops*.—First a *Fawn*, good in all points and winner of the Society's medal; second a *Sooty Fawn*, one 23½ by 5½, and the other 23 by 5. *Silver-Greys* were very remarkably even and good. *Silver-Cream*—or, as for the future we shall designate them, *Silver Fawns*—were very good, and showed great improvement on all we have seen. The first the richest yet produced, but second better in silvering, and both very even in colour. *Himalayans* were very poor indeed. *Angoras* very good; the first a grand one, not only in quality but also in size. *Dutch* only five, but good, *Black* winning. *Belgian Hares* were an unusually even and good class, almost all deserving a prize, the winners leading mostly in ground colour and ear lacing. In the *Variety* class first was a very pretty *Albino*, and second a mongrel, very large. In the *Selling* class a *Silver Fawn* was first and a *Lop* second.

POULTRY.—*Game*.—*Cock*.—1, W. A. F. Fenwick. 2, W. & H. Adams. 3, W.

Tillotson. *Any variety*.—*Cockerel*.—Cup, R. Garnett. 2, R. Corless. 3, Sales. *Pullet*.—1, J. F. Walton. 2, W. J. Mason. 3, T. & J. C. Parker. *Black Red*.—1, R. H. Hick. 2, G. Furness. 3, W. Spencer. *Chickens*.—1, W. Morley. 2, W. Rudd. 3, E. Jagger. *Brown and other Red, except Black*.—1, W. Rudd. 2, H. Scholcheld. 3, E. Jagger. *Chickens*.—1, F. Fenwick. 2, J. F. Walton. 3, W. Rudd. *Duckwing*.—1, W. Rudd. 2, Holmes & Dester. 3, A. & H. H. Staveley. *Chickens*.—1, F. Sales. 2, W. J. Mason. 3, G. Ambler. *Any other variety*.—1, J. F. Walton. 2, H. Hick. 3, H. C. Mason. *Chickens*.—1, W. Rudd. 2, J. F. Walton. 3, H. Hick. *DORKINGS*.—1, J. Walker. 2, T. Briden. 3, C. Atkinson. *Chickens*.—1, R. A. Boissier. 2, A. Jackson. 3, J. Walker. *COCHINS*.—Cup, W. Mitchell. 2 and 3, T. Aspend. *Chickens*.—1, H. Beldon. 2, A. Bamford. 3, H. Tomlinson. *BANTAMS*.—*Light*.—1, H. Beldon. 2, G. Pounder. *Chickens*.—1, H. Beldon. 2, T. N. Wolstencroft. 3, H. W. and H. King. *Dark*.—1, R. Hargreaves. 2, H. Beldon. 3, G. & J. Duckworth. *Chickens*.—1, H. Wilkinson. 2, P. Hargreaves. 3, J. Brooke. *SPANISH*.—1, J. Thresh. 2, H. Wilkinson. *Chickens*.—Cup and 3, J. Powell. 2, Miss A. Corden. *HOUDANS*.—1, S. W. Thomas. 2 and 3, G. W. Hibbert. *Chickens*.—1, R. B. Wood. 2, J. W. Thomas. *vhc*. E. J. Blair. *CREVE-CEURS*.—1, W. Cutlack. 2, W. R. B. Wood. 3, G. W. Hibbert. *Chickens*.—1, Robinson & Myers. 2, R. B. Wood. 3, W. R. Park. *vhc*. G. Furness. *POLANDS*.—1, H. Beldon. 2, R. Rawnsley. 3, P. Unsworth. *Chickens*.—1, A. & W. H. Silvester. 2, P. Unsworth. 3, H. Bowker. *HAMBURGHS*.—*Spangled*.—Cup, G. & J. Duckworth. 2 and 3, J. Rawnsley. *Gold-spangled*.—*Chickens*.—1 and 2, G. & J. Duckworth. 3, H. Beldon. *Silver-spangled*.—*Chickens*.—1, Robinson & Jagger. 2, J. Rawnsley. 3, J. Preston. *Pencilled*.—1, H. Pickles. 2 and *vhc*. J. Rawnsley. 3, J. Preston. *Gold-pencilled*.—*Chickens*.—1, H. Pickles. 2, J. Rawnsley. 3, G. and J. Duckworth. *vhc*. H. Beldon. W. Clayton. *Silver-pencilled*.—*Chickens*.—1, Robinson & Jagger. 2, H. Pickles. 3, H. Beldon. *Black*.—1, C. Pemberton. 2, H. Beldon. 3, J. Rawnsley. *vhc*. S. Booth. *Chickens*.—1, W. Bentley. 2, J. Lancashire. 3, Hobson & Robinson. *vhc*. H. Beldon. W. Tate (2), Stott and Booth. J. Preston. C. Pemberton. W. Bentley. *BANTAMS*.—*Game*.—*Cock*.—1 and 2, W. F. Addie. 3, A. S. Sugden. *vhc*. J. Blamires. Smith & Davis. W. Baskerville. *Red*.—1, E. Walton. 2, W. F. Addie. 3, W. F. Entwistle. *Chickens*.—Cup, W. Rudd. 2, W. F. Entwistle. 3, W. F. Addie. *vhc*. W. F. Entwistle. W. Wardle. *Duckwing*.—1, R. Newbitt. 2, W. F. Entwistle. 3, T. Dowell. *Chickens*.—1, E. Walton. 2, A. S. Sugden. 3, J. & J. Lund. *Black*.—1, W. H. Shackleton. 2, Metcalf & Milner. 3, F. Bealand. *White*.—1, H. Beldon. 2, W. Pape. 3, J. W. Crowther. *Gold or Silver Sebright*.—1, T. P. Carver. 2, H. Beldon. 3, W. Richardson. *Any other variety*.—1, W. Rudd. 2, W. F. Entwistle. 3, H. Beldon. *TURKEYS*.—1, J. Walker. 2, G. Mangles. 3, S. H. Stott. *GEES*.—1, 2, J. Walker. 3, G. G. Duck. *Dark*.—1, J. Walker. 2, J. Newton. 3, F. G. S. Rawson. *Any other variety*.—1, J. Trickett. 2, A. & W. H. Silvester. 3, J. Walker.

PIGEONS.—*POUTERS*.—Cup, A. & R. Hutchinson. 2, E. Mawson. *vhc*. J. E. Crofts. Miss F. Seaton. *CARRIERS*.—1, E. Mawson. 2, W. Townsend. *TUMBLERS*.—*Short-faced*.—1, H. Yardley. 2, G. H. Wood. *vhc*. E. Mawson. *Any other variety*.—1, R. Bankart. 2, W. Lund. *vhc*. G. Lister. H. Yardley. W. Lund. J. E. Crofts. E. Mawson. 2, H. Yardley. *COX & BAKER*.—1, J. E. Crofts. *vhc*. J. Thompson. *Holt*. *TRUMPETERS*.—1, L. Leger. 2, S. S. Blakey. *TURBITS*.—1, R. Wood. 2, Miss F. Seaton. *vhc*. T. Holt. G. Sadler. E. Mawson. *FANTAILS*.—1, J. F. Loversidge. 2, W. J. Warhurst. *BARBS*.—1, J. Thresh. 2, E. Mawson. *NUNS*.—1, J. E. Crofts. 2, E. Mawson. *DRACOONS*.—1, R. Woods. 2, E. Mawson. *vhc*. J. Everitt. N. Smallage. R. Woods. *ANTWERPS*.—*Long-faced*.—1, B. Rawnsley. 2, C. F. Herrieff. *Short-faced*.—1, E. Mawson. 2, H. Yardley. *vhc*. E. Rawnsley. *MAGPIES*.—1, R. Woods. 2, J. E. Crofts. *vhc*. J. E. Crofts. Miss F. Seaton. E. Mawson. 3, W. Webb. 2, G. F. Burton. *vhc*. A. Bew. *ANY OTHER VARIETY*.—1, J. E. Crofts. 2, A. & W. H. Silvester. *vhc*. C. Atkinson. Miss F. Seaton. A. & W. H. Silvester. *SELLING CLASS*.—1, C. F. Herrieff. R. H. Britton.

JUDGES.—*Poultry*: Messrs. Dixon and Teebay. *Pigeons and Rabbits*: Mr. E. Hutton.

Mr. E. W. Southwood has purchased the whole of Mrs. Arkwright's breeding and exhibiting stock of Dark Dorkings; and Mrs. Arkwright retires from the fancy.

A TRIAL OF HIVES SUGGESTED.

It will be remembered by some of your readers, that in the early months of this year a proposal was made with a view to test the powers of different kinds of hives and bees. It was then hoped that some gentlemen would come forward and lend their aid and advice in an effort to prove or disprove the alleged superiority of some kinds of hives and the Ligurian bees. In my opinion there is no other question stirring the bee-loving community of greater importance than this, and that if it can be lifted out of and above the region of mere opinion by a satisfactory trial a result very valuable will be arrived at. Hundreds of bee-keepers now want to know if some kinds of hives strongly recommended are really any better than those they already possess, and whether the Ligurian bees are really any better than the common sort. Who can at the present time give them the information they seek? What earnest honest bee-keepers want is a solid foundation of facts, and so far as we know such foundation has not been laid by the apiarists of either Europe or America.

Amongst the last importations from America was an Essay on bees by Mrs. Tupper, in which Ligurians are strongly commended. Though I do not attach much importance to her recommendations, she mentions one point which is new to most people—viz, that the bills or trunks of Ligurians are longer than those of common bees, and that this may be proved by filling a jar of honey covered with perforated zinc near both kinds of bees. After the common bees cannot reach the honey, the Ligurians continue to fill their sacs with it and carry it home. If this is a fact they possess one point of superiority. The main point is, Do they gather more honey? and this we have to find out yet.

Probably the hive last patented in America is one invented by Mr. N. C. Mitchell, Harrisburg, Pennsylvania, called "The Adjustable Bee Hive," which according to Mr. Mitchell's account beats all that the world has ever seen. He says his hives "are superior to all other moveable comb hives, and are so constructed that every idle bee can be set to work, and that

in them bees are five hundred per cent. easier handled, and gather four hundred per cent. more honey than they do in other hives. This adjustable hive is the only one that will winter bees in any latitude without loss. Its price is only 75 cents. We have been selling townships at 25 dols., and counties at from 100 to 200 dols." He means the right to sell his "Adjustable" hives in townships and counties. It is to be regretted that such extravagant statements are ever made, and that any bee-keepers are so gullible as to believe them. Even in this England of ours it was stated by a gentleman this year, that owing to the materials and construction of a hive in his garden it gathered three hundred per cent. more honey than a straw hive standing beside it, and doubtless some believed him.

With a view to enlighten public opinion and advance apiculture I shall leave to suggest that next year (1878) we may have a test trial or friendly competition between Italian and common bees and hives of different kinds. It appears to me that an enterprise of this kind will be of great advantage to the bee-keepers of this and other countries. All the reading public of England would be put into the jury-box to see and hear for themselves. The story of the trial would be told in every place, and truth would prevail. If three or four or more gentlemen on either side or different schools will undertake to provide four or six hives for trial it would be easy to make arrangements for a public competition. The conditions should be left to a committee and be discussed by the public. By reason of the weight of years resting on me I am not so able and active as I once was, but if no younger man comes to the front with common bees and straw hives for the proposed competition I will find some in my own garden and willingly send them to the arena of contest; and I earnestly hope that some of our friends on the other side will have the courage of their opinions and be ready to appear with the Italian bees and hives after their models. In such a trial honest men have nothing to lose but much to gain. The best hives and best bees would be put into the top class by general consent. In all honourable contests and discussions those that lose the day are the greatest gainers, for they gain truth by defeat, and truth is better than victory.

As this is the last effort I shall make to bring about a public competition of bees and hives I should like it to be successful. I rather fear that some of our friends may not like to venture their bees in a public trial, and some others would not part with theirs for a season. Hence I am going to take a liberty by asking ten or twelve of our friends to promise £1 a-piece to help to carry out our proposal of testing in a satisfactory manner the powers of some kinds of hives and bees. I do not want to touch a penny of money, but in the event of no one appearing with Ligurians to prove their superiority, that three or four hives of them be purchased for the proposed trial. If arrangements be made for trial next year, and the season be favourable for honey-gathering, the bees of eight or ten strong hives would gather honey enough to pay all the expense and cost of purchase. I commend the consideration of the proposal to the bee-keepers of Great Britain, believing as I do that a trial of the kind would do more to advance apiculture than many bee and honey shows, and at much less expense.

If we can see our way to secure the hives for the enterprise satisfactory conditions would be arranged afterwards. I am quite sure that we have in the bee-loving community means and energy enough to carry out the suggestion to a successful issue. It is a question for the multitude, and the greater interest will be excited if many people take part in the undertaking. I shall be glad if the readers of the Journal will give us their opinions and aid.—A. PETTIGREW.

LARGE v. SMALL HIVES.

I HAVE no sort of wish to do injustice to Mr. Pettigrew, nor did I think I had done so. Perhaps if I had written "he has frequently admitted that he has little or no personally practical experience of the management of bar-framed hives," I should have expressed myself more accurately. Such certainly was what I meant to convey.

As to my "reckless" statement, I shall not "squabble" with Mr. Pettigrew about it. Nevertheless, it is a fact of my own experience, and I must adhere to it. I have no doubt that "wherever honey can be obtained large strong hives gather it faster than strong small hives." All I say is, there must be honey in sufficient quantity to fill these large strong hives, otherwise the bees will waste both energy and honey in making an unnecessary quantity of comb, which will not be the case in smaller and compact hives. Having tried both larger and smaller hives in this poor honey-gathering district I again repeat that "I have abundantly proved my statement to be true."—B. & W.

OUR LETTER BOX.

DORRING COCK DIARRHOEAED (J. S. T.).—The cock is suffering either from unwholesome food or from imperfect digestion. In either case it is necessary

that purgatives should be administered in order to get rid of that which offends. Acting on that which you assure us to be the case, that the bird, except as regards his comb, is in perfect health, we should at once administer a good tablespoonful of castor oil, and after that had operated we would give some stale crusts soaked in strong ale and a couple of pills of camphor the size of a small pea. The colour of the comb should then begin to return. If it does not after two or three days repeat the dose.

RICE MEAL FOR FOWLS (M. B.).—We are very sorry our experience does not tally with that of your friend. We hold rice to be useless food in every shape and form. We have tried it not only with poultry but with game and pigs. The fat put on disappeared at the fire, and the lean of the flesh might have claimed relationship with indiarubber. It is needless to say that in such condition there cannot be good plumage. We have always found rice to be so poor in itself that it is favourable to the production of parasites. It has always done so in our trials. Feed on barley meal or ground oats slaked with water morning and evening, midday give barley or maize or kitchen scraps. If your stock is as good as that of your friend, if the eggs are set at the same time and the chickens equally cared for, we do not hesitate to say you will beat the rice.

PRICES OF RABBITS (E. M. F.).—Two such Rabbits as you describe can be put on board a New York steamer in a proper hutch for £5 10s. This sum would not include food.

BEES IN TOWNS (Lex).—By intelligent management and judiciously feeding the bees a fair amount of success is attainable. We shall shortly publish an instance of successful bee-keeping in London.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.					Rain.
1877. Dec.	Barom.— at 39° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of Soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.			
		Dry.	Wet.			Max.	Min.	In sun.	On grass.		
We. 12	Inches	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.	
Th. 13	29.717	51.0	49.0	W.	41.1	51.6	34.1	62.0	33.8	0.070	
Fri. 14	29.9 8	86.0	85.6	W.	41.2	42.9	35.4	61.2	30.5	—	
Sat. 15	30.2 1	84.8	84.0	W.	40.2	41.7	30.9	61.3	26.2	—	
Sun. 16	30.520	82.6	82.3	N.W.	39.0	43.8	28.7	45.2	23.2	0.010	
Mo. 17	30.341	83.9	82.2	W.	39.3	49.2	32.6	55.1	31.8	—	
Tu. 18	30.412	48.9	42.7	W.	41.1	48.5	43.4	50.1	38.7	—	
	30.524	89.6	88.6	N.	41.7	46.7	38.6	65.1	33.3	—	
Means	30.282	40.3	89.2		40 5	46 3	34 8	57.7	31.0	0.080	

REMARKS.

12th.—Boisterous and wet in the early morning, but fine by 9 A.M., and sunny after 10 A.M.

13th.—Bright sunny day but cold; fine night.

14th.—Fine morning, with thick white frost; fine and bright all day.

15th.—Morning misty and cold, sky overcast most of the day; but a lunar halo visible at 6 P.M.

16th.—Generally overcast, but a pleasant day; rather windy in afternoon; moonlight evening.

17th.—Misty morning but fine; rather dull all day; finer at night.

18th.—Very fine and bright throughout, with very high barometer.

A dry fine week, with high barometer. Westerly wind and very little rain.—G. J. SIMONS.

COVENT GARDEN MARKET.—DECEMBER 19.

THIS being Christmas time a little more activity is displayed in our Market but as a rule prices are not what might be expected. Pears are making high prices, but there is no improvement in the value of Apples. Kent Cobs are higher.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....	½ sieve	2	0 to 5	0	Melons.....	each	0	0 to 0	0
Apricots.....	dozen	0	0	0	Nectarines...	dozen	0	2	0
Chestnuts.....	bushel	10	0	20	Oranges.....	dozen	3	0	10
Currants.....	½ sieve	0	0	0	Peaches.....	dozen	0	0	0
Black.....	½ sieve	0	0	0	Pears, kitchen.	dozen	1	0	3
Figs.....	dozen	0	0	0	Pears, dessert	dozen	2	0	9
Filberts.....	lb.	6	0	8	Pine Apples...	lb.	1	6	5
Gobs.....	lb.	6	0	9	Plums.....	½ sieve	0	0	0
Gooseberries...	½ bushel	0	0	0	Raspberries...	lb.	0	0	0
Grapes, hothouse	lb.	1	6	8	Wainuts.....	bushel	5	0	0
Lemons.....	£ 100	6	0	10	ditto.....	£ 100	0	0	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....	dozen	2	0 to 4	0	Mushrooms....	pottle	1	6	2
Beans, Kidney forced	£ 100	1	0	1	Mustard & Cress	pennet	0	2	4
Beet, Red.....	dozen	1	6	8	Onions.....	bushel	2	6	8
Broccoli.....	bunches	2	1	6	Pickling.....	quart	0	4	0
Brussels Sprouts	½ sieve	2	6	0	Parsley.... doz.	bunches	2	0	0
Cabbage.....	dozen	1	0	2	Parsnips.....	dozen	0	0	0
Carrots.....	bunch	0	4	0	Peas.....	quart	0	0	0
Capsicums.....	£ 100	1	0	2	Potatoes.....	bushel	3	6	0
Caniflowers.....	dozen	2	0	4	Kidney.....	bushel	5	0	7
Celery.....	bundle	1	6	2	Radishes... doz.	bunches	1	0	1
Coleworts doz.	bunches	2	4	0	Rhubarb.....	bundle	0	6	1
Cucumbers.....	each	1	0	1	Salsafy.....	bundle	0	9	1
Endive.....	dozen	1	0	2	Scorzoneria...	bundle	1	0	0
Fennel.....	bunch	0	3	0	Seakale.....	basket	2	0	2
Garlic.....	lb.	0	6	0	Shallots.....	lb.	0	3	0
Herbs.....	bunch	0	3	0	Spinach.....	bushel	2	6	4
Lettuce.....	dozen	1	0	2	Turnips.....	bunch	0	3	0
Leeks.....	bunch	0	2	4	Veg. Marrows..	each	0	0	0

WEEKLY CALENDAR.

Day of Month	Day of Week	DECEMBER 27, 1877—JANUARY 2, 1878.	Average Temperature near London.			Sun Rises.		Sun Sets.		Moon Rises.		Moon Sets.		Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	h.	m.	h.	m.	h.	m.	h.	m.			
27	Th	St. JOHN THE EVANGELIST.	43.0	29.7	36.4	8	8	3	55	0	1	11	25	(	1	27
28	F	INNOCENTS' DAY.	42.6	29.5	36.0	8	9	3	55	1	25	11	39	24	1	56
29	S		43.9	30.0	38.5	8	9	3	56	2	49	11	56	25	2	26
30	SUN	1 SUNDAY AFTER CHRISTMAS.	44.4	31.7	38.1	8	9	3	57	4	18	0	19	26	2	55
31	M	Quarter Sessions begin.	43.9	32.4	38.2	8	9	3	58	5	34	0	49	27	3	24
1	Tu	CIRCUMCISION.	41.8	29.8	36.2	8	8	3	59	6	49	1	31	28	3	53
2	W		41.9	28.9	35.4	8	8	4	0	7	49	2	27	29	4	20

From observations taken near London during forty-three years, the average day temperature of the week is 43.0°; and its night temperature 32.8°.

SOME LESSONS OF THE YEAR.

FAREWELL to the old year, for it is passing away, a few brief hours only remaining to us before the tale of its days will be complete and it will be numbered with the past. This is the thought which comes to me as I sit down for the last time this year to write a few notes for our Journal, and so it seems most fitting that my theme should be a retrospective one; for undoubtedly now is the time to review the lessons of the past twelve months, and endeavour to turn their teachings to account so far as may be practicable in the coming year.

January opened mild and wet. A maximum temperature full 10° above the average mean of winter was registered, and such dripping weather prevailed that autumn-sown Peas were forced into premature growth by the remarkable mildness of the weather, and became so weakly as to succumb to the almost incessant wet; Strawberries too suffered severely, whole beds being killed outright, thus showing that a very wet winter sometimes proves as fatal to vegetation as a very cold one. The mild weather continued till the last week in February, when we had some snowstorms and a decided change to colder weather, there being 12° of frost on the 28th of that month. March was a cold month with a succession of frosts, inducing us to hope that fruit trees, teeming as they were with flower buds, would be so much retarded as to be safe from spring frosts; but our hopes were doomed to disappointment, for we had a repetition of those bitter cold north-eastern gales which so frequently occur just as the opening blossom and expanding foliage are most liable to suffer from such adverse influences, the result being that the bulk of the fruit crop was lost, and blistered foliage of Peach and Nectarine trees was so prevalent as to convince the most sceptical that cold, and cold alone, is the cause of blister. The foliage was so badly affected that almost the whole of it fell off prematurely, giving a severe check to the spring growth which all good cultivators of the Peach like to see flourishing in full vigour, knowing as they do that a strong early growth points to full and early maturity in autumn. This failure of the spring growth and the miserable sickly condition of the trees rendered the subsequent vigorous shoots of midsummer all the more remarkable, for in a week or two the trees were fully clad with large green healthy foliage, and the robust growth sprang forth with such rapidity and freedom as to afford a striking illustration of the vigour of healthy Peach trees. Very little of the fruit survived this rude assault of untimely cold; in fact much of the blossom never came to maturity, the ground being strewn with half-developed buds—a sight most melancholy to behold, a failure most lamentable, for the trees were full of promise, and hopes of a full crop of fine fruit were proportionately high. The failure was not a mere local affair, but was general throughout the country, and I for one frankly confess that my

views of Peach culture have undergone considerable modification.

Let me be consistent and remind my readers that I have repeatedly appeared in these pages as the warm advocate of Peach culture upon open walls, and I have still no reason to doubt that in most years the trees will yield a good crop of fruit; yet there will always be the risk of failure from ungenial spring weather, and therefore in all large gardens, which it may fairly be said are made with a view of securing an unfailing annual supply of fruit in its season, the trees should have the protection of glass houses of the most simple form and inexpensive materials compatible with efficiency. Before turning from the fruit I must call attention to the important fact that while the Apple crop generally was a failure, yet Cellini Pippin, Wormsley Pippin, Small's Admirable, Margil, and Duchess of Oldenburgh all had good crops, notwithstanding that the trees were fully exposed; Cox's Orange Pippin and King of Pippins having about half a crop.

Vegetables have been abundant and good. Potatoes did not altogether escape the ravages of blight, yet the past season has again afforded conclusive proof that early lifting is the only safeguard against disease. The whole of the early sorts were quite sound, and not a tuber of the late kinds lifted before the heavy rains fell in August was affected; but unfortunately we were overtaken by rain before the lifting was finished, and many of the tubers subsequently taken up were affected, as has always been the case. This, however, valuable as is the experience it affords, is only one of the evils resulting from unfavourable weather. A cold, late, wet spring brought many trials in its train—that terrific gale from the southwest on the 28th of May left the mark of its scathing power till the leaves fell in autumn, the foliage of Larch Firs having a scorched appearance as if it had been subjected to the action of fire; and Beech trees, with very few exceptions, had their leaves so much battered and lacerated as caused the trees to present a disreputable browned ragged appearance.

I am in no humour to enlarge further upon the *per contras* of a season that has on the whole proved fairly prosperous. Trials and difficulties are part and parcel of our lives. Met in the right spirit they may generally be overcome and often so turned to account as to lay the foundation of subsequent success and prosperity. The old school maxim, "Perseverance conquers all things," not only holds good but seems to me to become increasingly significant as mature experience enables one to understand cause and effect more clearly, and to see that application and painstaking is after all the secret of success. In view, therefore, of that progressive improvement which should end only with our lives it will be well to turn to account the few hours of the old year which remain to us by a calm and thoughtful review of our individual failures and shortcomings, and thus make ready to enter upon a new year with earnest healthy resolutions to strive for improvement in all we undertake; for sure I am that such resolutions give such an impetus to our

efforts as enables us to enjoy that which I heartily wish every reader of the Journal—

A HAPPY NEW YEAR.

—EDWARD LUCKHURST.

POTATO DISEASE.

WITH much surprise and some pleasure I have read the articles by "AMATEUR" on "Speculations as to the Nature and Origin of the Potato Disease." Predisposing influences no doubt there are, but these must not be confounded with the cause of the disease itself, which it can scarcely be delusion to believe is now clearly attributable to *Peronospora infestans*, known as the Potato fungus, perhaps not the only one to which it is liable or which may help sometimes to produce the condition of disease. Why should there be any speculation when authorities who investigate bring forward the result of their research? Further research surely is the only thing admissible on which to form an opinion. The writings of well-known scientific men give evidence of the above cause, and this we must assume to be trustworthy. I cannot recall any investigator who has reached any but this accepted conclusion. That everybody is not convinced is of no consequence. The subject is of such a nature that few comparatively are in a position to say from immediate observation whether a fungus is the cause or not. There are those who will not or cannot accept an evident fact. A strange doctrine is not easily received or criticised by those who have no knowledge by which to compare and grasp the new theory or fact. Many absurdities have come from those who read to no purpose or do not investigate for themselves. The word "investigate" is used in its full meaning. In this case it implies the use of the microscope as a preliminary, an instrument which "AMATEUR" does not appear to have used; yet inclining as he does to the fungus it might, with the help of a little further experiment, place the matter to his mind beyond the region of speculation, where it is, I believe, to the minds of the majority of those who are worth attention.

"AMATEUR" says that "an able botanist not long ago came out with the astounding statement that everybody was convinced that the fungus was the disease." This, he says, is going a little too far. We have already disposed of "everybody." Everybody does not believe in the rotundity of the earth even in this year of grace. Then as to whether it is in the least degree astounding that a fungus should produce disease, "AMATEUR" does not say that it is, and may not think so. But why review the several speculations when he is inclined to believe in the fungus, if there is not some difficulty? He can scarcely fail to find that it has the best support, and if so it is the first thing to follow up. What wonder need there be? It is well known that plants are frequently the hosts of other and usually lower forms of vegetable life, very commonly a fungus. Mistletoe grows on the Apple tree; seeing which with the naked eye, we believe and have no difficulty. It might be called an Apple disease. Innumerable instances may be cited of all kinds of parasitism down to the attack of a roadside weed by a fungus. The case of Mistletoe on the Apple is truly analogous so far that the one is a parasite destroying more or less the other. That the fungus is microscopic does not render it a less likely cause. Nature is great in the infinitely little, and much of the highest importance may there be found. We are told of organisms which the strongest microscope is unable to make visible, yet they live and have their being: this on the authority of Prof. Tyndall, to whom "AMATEUR" refers, about which we shall presently speak. *En parenthèse* we may remark that these organisms are known of course only by scientific deduction. Vegetables growing on vegetables are common enough, but are less wonderful than the cases of vegetable parasitism on animals, the human race even being liable to the attack of a fungus. "Favus" is a disease caused by the attack of *Achorion Schoenleinii*, which attacks the part of the human head covered with hair, into which the spores grow, producing complete and permanent baldness. We have to believe a great deal that does not appear possible at first sight. The skin of a pig—it cannot be well known—will graft on the human flesh. This is rather revolting, but necessity knows no law. It has been used in a case, when the supply of human skin failed, for the purpose of covering a surface on which the natural skin could not grow. It has nothing, whatever, of course to do with Potato disease, but is useful to mention while we have probabilities under discussion. A number of different forms and

species of fungus are known which inhabit the body of the living animal. Instances need scarcely be given. Suffice it to mention *Botrytis Bassiana*, an ally of *Peronospora*, which causes the muscardine disease so destructive to silkworms; *Sphaeria Robertsii* of New Zealand, which grows from the head of the larva of a moth, itself 2 inches long or little more, and the fungus 8; and the Chinese *S. sinensis* on a caterpillar, having the interest of being used as food. All this being true there is nothing more natural than a fungus affecting the Potato even to destruction.

"AMATEUR" steps within the bounds of medical science for illustration and takes the measles, not appearing to be aware that infectious diseases do not always result from infection. Given the necessary conditions and the disease may appear, then forming a centre of contagion. This would be true for measles if we accept the theory of the glandular origin of such diseases, and may be so in any case; but whether Adam so suffered or not must always remain an open question. Probably, if he came within the conditions, he did (some one started with that affliction); then possibly Eve had them by infection. Eve first ate the forbidden fruit, perhaps she first had the measles in consequence. I fail to see how the "if not" and "why not" would be worth the attention of a medical student.

"AMATEUR" next speaks of Professor Tyndall and spontaneous generation, but there falls into error. Professor Tyndall's experiments go to prove that the spontaneous generation theory is untenable, not the reverse. "AMATEUR" does not believe in it, and appears to be right; but how does he reach his conclusions? Not, it would seem, by deduction from the experiments of others or by his own research. Speculation or opinion will not do for this or Potato disease so long as either can be brought under investigation.

Much of the speculation reviewed must be passed over in a body, not according, as it appears to me, with the light of present knowledge, and therefore my remarks must be limited to that which bears on *Peronospora*. Degeneracy* (debility), atmospheric influences, &c., may no doubt place the Potato in a position less able to withstand the attacks of its enemy, but, this enemy absent, no amount of "degeneracy" or anything else will produce its effect. The development of this disease appears to show that the fungus is the cause and not the consequent. It has been placed before us by authorities who have investigated carefully, and therefore must be accepted by all who do not probe the matter as fully themselves. With regard to spread, it must be remembered that the fungus has been supplied with the conditions of increase by cultivation of its host, the Potato. This disease and others of a like kind to which economic plants are liable must be taken as the penalty man has to pay for cultivating their subjects in masses, and he must therefore accept the net result. Plants are widely affected in a state of nature, but then are comparatively isolated. Often are flowering plants introduced to other countries on conditions, where they attain a development unknown in their original habitat. Very likely it is also the case with certain fungi. Possibly the *Peronospora* grew on another plant altogether, whether in this country or another, but in the Potato found a host more agreeable to its requirements. "AMATEUR" says very little with regard to origin, and it is in the above sense no doubt he intends the word to be taken. Very little indeed can be said, or rather nothing at all, till it is found truly and certainly wild.

To trace the fungus through past time is no doubt an impossibility. We have knowledge, however, thus far, that countless ages ago it may have existed in much the same form as now. The oldest fungus on record has not long since been discovered, and it is a remarkable fact that while similar in other respects its zoospores are the same in form and dimensions with those of *Peronospora* when measured to the ten-thousandth of an inch. This is the fossil *Peronosporites antiquarius*, found in the vascular structure of the axis of *Lepidodendron*, one of the gigantic Club Mosses of the carboniferous epoch.

"AMATEUR" does not in precise words define his theory, but from his illustrations it appears to be that of an organism coming from somewhere—in any case a parasite. What, then,

* This word must here be used with a limited meaning. It cannot be admitted with the sense that a variety of a plant propagated by extension of an original individual "runs out" by long cultivation, as has been said of the Ribston Pippin and other fruits. Whether they know it or not, people generally mean a functional disturbance or weakness, which may result from a variety of causes.

can the introduction of a flowering plant not a parasite have to do with the matter? If of any import the fact only need be mentioned, for such cases are well known, and others of very rapid spread besides *Anacharis*. It is difficult to be seen what inferences can be drawn from the history of *Phylloxera* or the Colorado beetle when (if I am right) the disease has never been attributed to an insect. Whether of animal or vegetable life, however, it is a not uncommon occurrence for rapid spread to take place in a new country. While "AMATEUR" has brought together and reviewed a variety of speculations, it is not a little surprising that no mention is made of the writings of Berkeley, De Bary, Worthington Smith, or others who have investigated. An ounce of investigation is surely worth many pounds of speculation or theory.—*PERONOSPORA*.

ANNUALS.

SOME years ago, before the bedding-out mania had attained to the dimensions it has done, annuals received a great deal of attention, but of late it is difficult in many gardens to find even the very commonest. The fragrant Mignonette and Sweet Pea are sometimes not thought worthy of a place, and a scentless garden from whence not a breath of perfume arises is no uncommon thing. You may pass furlongs of ribbon bordering, bed after bed of carpet fashion, arranged in the most elaborate and fantastic patterns, but from them all not one delicious sense of scent arises; and it is the same of course when the flowers are cut for the house. Oftentimes the nosegay or vase of flowers is tastefully arranged, but the want is felt; for how involuntarily when one gets near a bunch of flowers does the face go down to catch the delicate perfume, which in so many instances is not to be found. For this reason, then, I would say a word for annuals. But there is another: They afford so much variety in form and colour, that not only do they please the eye when growing in the garden, but also add an elegance and lightness to a vase of flowers which the more formal trusses of Geraniums and other plants used for bedding-out do not afford. Take, for example, one of the very commonest—*Coreopsis*; how much of elegance do a few of its brilliant-coloured flowers give to a vase, and how easily are they to be had! In these notes I would, then, plead for them, especially as skill and enterprise are continually adding novelties to our lists.

There is little need now to advocate the cause of herbaceous plants, they are steadily working their own way once again into favour; but it is at the same time desirable not to overdo the addition. I do not think that by a mixed border we are to understand simply a collection of herbaceous plants. No: I think fairly enough we may include in it bulbs in spring and autumn, and annuals and Geraniums in the summer months; if the latter, not enough to make their growth a burden or inconvenience in the winter months. What I mean may be ascertained by going into many greenhouses at this season where you will find them full to overflowing with store pots of Geraniums, *Heliotropes*, &c., instead of plants in which cultural skill can be displayed and varied forms of beauty beseen.

The exhibition of annuals held by Messrs. Carter & Co. of High Holborn at the Royal Botanic Society's gardens this season must have opened the eyes of a good many to the forms of beauty they have neglected in their rush after some novelty for bedding-out; and in the hope of inducing some of the readers of the Journal to give a small place in their garden to some of the best of these I would select those which I have tried in my own little garden, and which have been useful either for showiness in the borders or for cutting.

Carmine Candytuft.—A very pretty form of this old and well-known favourite flower with rich carmine flowers.

Calliopsis bicolor, atrosanguinea, &c.—Very common, but very useful for cutting, especially for the top glass of dinner-table stands.

Chrysanthemum tricolor, Burridgi, Dunnetti, &c.—These annual *Chrysanthemums* are very pretty and striking in appearance, enlivening a bouquet very much.

Dianthus chinensis Heddwigi.—There are several forms of this pretty and quaint flower, and two have been exhibited this season by Messrs. Carter & Co.—viz., *Easter Queen* and *Crimson Belle*, which are a great improvement on previous varieties.

Godetia Lady Albemarle.—A very beautiful novelty, having flowers 4 inches across and produced in the greatest abundance; the colour a beautiful crimson with a bluish tinge on the edges of the petals.

Leptosiphon roscus.—A charming little plant, so dwarf that it may be grown upon a rockery amongst Alpines, and so bright that it lightens it up wonderfully.

Phlox Drummondii.—A wonderful improvement has taken place in this most useful plant. The size of the flowers has been increased; and in the compact varieties—*nana compacta*, rose, red, white, and violet—the Messrs. Carter have overcome one of the greatest objections to them—their loose and straggling habit. These flowers are alike useful to those who have a mixed border or who go in for bedding-out.

Portulaca, Single and Double.—These are very pretty, but do best when in some poor soil with a good deal of lime rubbish or burnt earth. If the situation is favourable they will seed freely and renew themselves yearly.

Silene pendula compacta.—A very compact-growing form of the old *Silene pendula*, and during the flowering season is one solid mass of bloom.

I must also refer to a very useful biennial—*Campanula Medium calycanthema*. A very striking form of the old Canterbury Bell, introduced by Messrs. Waite, Burnell, & Co., some years ago. Very fine and striking in appearance.

In what are called German flower seeds there has also been great improvement. What more delightful than a good bed of some of the many varieties of Ten-week Stocks? And then for autumn how fine and useful are our old friends the Asters! while for brilliancy of colouring we have the very handsome forms of double *Zinnias* and the African and French *Marigolds*. Mr. Betteridge's Asters with their exquisite forms are very valuable. Annual Larkspurs have also been greatly improved; and the candelabrum, dwarf Stock-flowered, and Emperor varieties are especially good. Then of the older annuals the scarlet Flax, the many varieties of Lupins, *Schizanthus*, *Nemophila*, &c., will readily occur to any who have taken an interest in gardens, and it will be surely worth while to renew their acquaintance with them.

A garden of this mixed character never fails to have some point of interest, and, as some one says, there are always surprises. Things you had forgotten peep up; flowers you had thought were over give you a bloom now and then unexpectedly. Your beds are never quite empty; and even in the depth of winter, when days are short and clouds dull, you may find something; as, for instance, going round this morning (December 11th) I found a fine spike of *Schizostylis coccinea* in full beauty, and the earlier varieties of *Cyclamen* just beginning to show their bloom, and *Crocuses* beginning to peep up. Expectations are quickened, and you have a sense of pleasure in the thought that your garden is even now a thing of beauty, and that it is continually returning to you something for the care and love you bestow on it.—D., Deal.

GOOSEBERRIES.

THEIR PROPAGATION AND CULTURE.

THE Gooseberry is a native of the north of Europe. In a wild state the berries are no larger than a Red Currant, but when the bushes are properly cultivated immense crops of large fruit are produced. The Gooseberry is one of the few fruits which succeed in any soil or situation, consequently it is grown, but not cultivated, in every garden. Owing to the bushes producing fruit without any attention they are frequently never touched, except, perhaps, with the garden shears; yet even when thus neglected they produce plenty of fruit, but it is of a very inferior description.

The Gooseberry is one of the easiest of all fruits to propagate, and the present season is the time to do it. When pruning the bushes select all the strongest shoots made during the summer, cut them 1 foot long each. Begin at the bottom and rub all the buds off excepting four at the top; leave the spines on, as they assist greatly in keeping the cuttings in their places when they are inserted in the ground. A quantity of leaf soil or well-decayed manure must be spread over the surface. Insert the rows of cuttings as the digging proceeds. A space of 15 inches should be allowed between the rows and 4 inches between the cuttings. Let the cuttings be 4 inches below the soil, which will leave 5 inches of clear stem between the ground and the first branch. We have raised many Gooseberries in this way without losing a cutting. They must not be disturbed at the root until the following spring. Throughout the summer hoe between the rows frequently, and never allow them to become choked with weeds. They should make shoots from 4 to 6 inches long the first season. Where the cuttings were all disbudded

excepting 3 inches at the top each plant will produce from four to six shoots. When pruning these, as soon as the leaves have fallen only cut about 1 inch from the point of each shoot. After this, if it is desired to make large bushes quickly, lift every other plant in the row, and plant them in a fresh piece of ground 18 inches between the rows and 10 inches or a foot between the plants. The ground on which these are planted should be well enriched with manure. During the second year's growth hoe between the rows as formerly, and by pruning time the second season you will have good-sized bushes. When the shoots are clustered together in the centre they must be thinned out to be at least 2 inches from each other; but do not cut off any that are spreading outwards, as this is just what is wanted to form a well-shaped bush. All the shoots left on at this time may be cut back to 6 or 8 inches from whence they started.

After their third season's growth they may be pruned as before, and then they will be ready for planting in their permanent fruiting quarters. They may either be planted in a single or double row along the sides of walks or in one of the garden quarters. In either case the ground should be trenched 2 feet deep, incorporating with it plenty of manure. Supposing the ground to have been prepared in November or December, the bushes may be planted in January, February, or March when the ground is free from frost. At this time the bushes should be planted at the least 4 feet apart each way. Make the holes large enough to let the roots in easily, press the soil firmly about them, and place a strong stake to each if the situation is exposed. Nothing but hoeing is required to be done to the soil for twelve or eighteen months after the bushes have been planted, but never let a winter pass without pruning them carefully. Always keep the bush in good shape. Never leave the wood crowded. When the bushes have attained their full size cut the young wood close in to the old stems annually. When they have grown in the same soil for four or five years, after pruning spread some good manure all round the stem and over the roots, and fork it lightly in. Do this annually. When the bushes become old and the branches begin to moss-up and die root them out and plant young bushes.

As to varieties, I cannot name better sorts than those given in the list of hardy fruits in last week's Journal. Where many are wanted for preserving grow the red sorts for this purpose. Where dessert is the object grow white, yellow, and green kinds. Apart from the uses to which they may be put when gathered off the bushes, they may be bottled in a green state and reserved for this season of the year. We are using some now which were bottled in June, and very acceptable they are for tarts. Various kinds of caterpillars are most destructive to the Gooseberry. Nothing proves such an effectual cure for them as gathering them with the hand. We always keep our bushes perfectly clean by looking over them frequently from the time the leaves are formed until the fruit is ripe. Birds are troublesome when the fruit is ripe, but old nets are cheap and prove an effectual safeguard.—A KITCHEN GARDENER.

HARDY RHODODENDRONS FOR CONSERVATORY DECORATION.

HARDY Rhododendrons for conservatory decoration during the early months of the year form very fit associates to the hardy Azaleas which were referred to in an excellent article on page 449. The great variety of colour possessed by Rhododendrons—some of them gorgeous, others delicate—render those shrubs most valuable. They are also so easy to force that they become almost indispensable for indoor embellishment during early spring.

Small and moderate-sized plants which are well set with buds are the most suitable for this purpose, for when they have grown very large it becomes necessary to reduce their balls to such an extent in order to get them into available-sized pots, that the plants are permanently injured. Suitable sized plants for forcing are always to be obtained at very reasonable prices at our leading nurseries, and if the selections are left to these firms plants suitable for the purpose required can be relied upon. I append a select list for those who may prefer to choose for themselves. The sorts named are free bloomers, and are otherwise attractive and useful.

Having secured the requisite number of plants place them in pots as nearly as possible of the same size as the balls, retaining as many of the very fine fibrous roots as can be secured. If

the weather is at all open they may be placed out of doors, but it is much safer to afford them the protection of a cold house or frame until they are wanted to be forced. An intermediate temperature of about 50° will be found very suitable for starting them, and if required to be pushed faster a stove temperature does not injure them so long as a moist atmosphere is provided and the plants are well syringed, giving the roots at the same time a plentiful supply of tepid water.

Rhododendron Nobleanum and its varieties are forced with the greatest ease, but those that are later in blooming out of doors in an ordinary way will take a longer time to expand their gorgeous blooms of scarlet, crimson, and allied colours indoors. If when they are fully expanded they are removed to the conservatory they will remain in bloom a long time, producing an effect that cannot be surpassed by any other flowers. Remove the flowers as they decay, and keep the plants under glass until mild weather ensues, when they may be transferred to the borders or to a piece of ground in the reserve garden to recruit themselves for future occasions. It seldom happens that the plants are suitable for forcing the second year, but the third and subsequent years they will be generally set with sufficient flower buds for that purpose.

Of the early-flowering sorts the following may be selected:—*Altaclarensis*, dark scarlet, very fine; *Blanche superbe*, pure waxy white; *Broughtonianum*, rosy red, immense trusses and fine foliage; *Cardinale*, scarlet; *caucasicum*, a very profuse bloomer of a yellowish colour; *Coriaceum*, white, dwarf habit, and a free bloomer; *Desdemona*, very richly blotched with dark on the upper segments, the lower petals being almost white; *Limbatum*, white, margined crimson; *Madame Wagner*, bright pink, white centre, a very pleasing and effective variety; *Nobleanum* in several varieties are all good for early work; *Ochroleucum*, very distinct, of dwarf habit, and pale yellow colour; *Regale*, scarlet and rose; *Rubescens*, bright ruby red and distinct.

Of the later blooming varieties *Alarm*, *Auguste Van Geert*, *Baron Osy*, *Blandyanum*, *Brayanum*, *Hendersonii*, *Jenny Lind*, *Leviathan*, *Lord Clyde*, *Lord Derby*, *Lord Russell*, *Madame Titiens*, *Madame Van de Weyer*, *Marian*, *Mirabilis*, *Miss Buller*, *Mrs. John Clutton*, *Neilsoni*, *Onslowianum*, *Prince Camille de Rohan*, *Princess Amelia*, *Purity*, *The Grand Arab*, and *Verschaffelti* are all good sorts, and most of them are generally to be met with in outdoor collections.—J. W. MOORMAN.

PICEA NOBILIS SEEDLINGS.

To a question asked by your correspondent Mr. Walton in reference to seed of this Conifer having been grown in open air without protection, I can state that when sojourning in South Devon my usual practice was to sow seed of *Abies Douglasi*, *A. nobilis*, &c., in sandy soil properly prepared in spring, making drills 2½ inches deep and a foot apart, the seed being sown in the same way that Peas are sown and in equally exposed places. In due course the seed germinated, and thousands of seedlings appeared. The only after-care for the first year was keeping the ground clear of weeds. In the second spring, if the plants have made satisfactory progress, have them all very carefully lifted and replanted in good sandy soil about 6 inches apart and 15 inches from row to row. If skilfully managed many of them will be fit for removal to permanent positions in the third year after sowing. Take precaution that rats or mice do not eat the seed, which they will do if hungry. A sprinkling of powdered rosin or red lead on the seed after it is slightly moistened will act as a deterrent. A very slight application of paraffin oil will also answer the same purpose. Where seeds of Conifers are not plentiful the better way will be to sow in shallow boxes well drained, and in prepared soil, placing them in a cold frame or pit near the glass, carefully attending to the soil being kept in a proper state of moisture.

In closing, will any of your correspondents inform me if they have raised *Wellingtonia gigantea* from home-saved seed? An answer in the affirmative, adding how it has been accomplished, will be interesting to your numerous subscribers and also to—ROBERT BEBBIE.

GLAZING WITHOUT PUTTY.—Mr. Laycock has furnished a lucid description of the rafter required for glazing without putty. Will he favour us with a more simple description of how the glass is fixed? Does he intend that the rubber is

laid on the glass, the screw then passing through the rubber, thence into the rafter? If so, should it be placed at the bottom of the pane?—J. R. COOPER.

ARECA PURPUREA.

THE *Areca*s constitute an important genus of a beautiful family. *A. Catechu* is the Betel-nut Palm, and *A. oleracea* the Cabbage Palm. It is, however, not on account of their products that Palms are valued in this country, but it is their stately elegance of growth and their adaptability to various decorative purposes that renders them so deservedly popular. Mr. B. S. Williams of Holloway states that he raised this Palm

Failure may be due not to some one particular condition, but rather to a combination of circumstances, which it would be difficult to satisfactorily elucidate. The only really sound advice that can be given in case of canker is to discard the trees liable thereto and replace them with those found to succeed.

I have Ribston Pippin and Hawthornden Apples both on Crab and Doucin stocks, and the trees not only canker badly but the fruit is so much spotted, and in a wet season cracked as to be useless. I have lifted them, changed the soil, but only with a very slight improvement, and nothing further, so far as I can see, remains to be done but to clear them out. Equally cumberers of the ground are Louise Bonne



Fig. 91.—ARECA PURPUREA.

(fig. 91) from seeds sent from Madagascar. He describes it as an elegant neat-growing Palm; leaves pinnate; the stem and petioles are of a bronzy purple colour, which makes a very striking contrast to the pleasing green colour of the leaves. It is very distinct, at least in the small state, from any Palm in cultivation; and on account of its dwarf and compact habit, and graceful appearance, will be found to be admirably adapted for dinner-table decoration.

FRUIT NOTES.

FRUIT crops were rendered extremely scant, even in the case of many trees worthless, by a few nights of rather severe frost, but surely other influences must have contributed in some degree to so general and complete a failure; indeed, I attribute more of the cause of the failure to the wet and cold previous autumn than to frost in the spring, the wood not being sufficiently ripened. Canker of the wood is a great enemy to full fruit crops, and it is nearly as common as frosts in spring.

of Jersey, Beurré d'Anjou, Beurré Brown, and Beurré d'Aremberg Pears. They are on both Pear and Quince stocks, and against walls as well as in the open with a similar result. Passe Colmar, Easter Beurré, and Beurré Superfin, the latter in the open only, are no good in this cold exposed position; the trees canker, the fruit pits and cracks. Beurré Superfin against a wall is contrariwise good. An election of fruits constitutes a valuable index to the planter, but it is not sufficient for all persons and positions. Then I am troubled with kinds that do not afford profitable crops. It is not a consequence of injudicious selection but of unsuitability of soil or situation, or both. Blenheim Pippin stands high in the election, but my trees have not given any fruits worth mentioning; yet Cox's Orange Pippin fruits abundantly. Surely pyramids 10 feet in diameter at the base and as much in height ought to do something. They are very healthy, very much nobler-looking than others that produced more fruit the year after planting than the others have yielded altogether. Beurré Hardy Pear, though it makes an imposing pyramid and has a noble appearance against a

west wall, has not given fruit corresponding to the years planted, and British Queen, which I much long to see, fails to afford a specimen. Surely these, and some others which I need not name, will some day amply reward the patient waiting and longing for fruit.

The Apples that do well here are Keswick Codlin, Lord Suffield, Emperor Alexander, Cox's Pomona (three-year-old bushes from the graft on Doucin stock gave this year over twenty full-sized fruit), Cellini, Warner's King, Holland Pippin, Hollandbury, Dumelow's Seedling, Bedfordshire Foundling, Yorkshire Greening, and Northern Greening. I have the Greasy-coat (Russian Transparent), which never fails to fruit, being trained as a horizontal espalier. Lady Henniker promises well. Dessert Apples doing well are Joanneting (White), Irish Peach, Red Astrachan, Devonshire Quarrenden, Kerry Pippin, King of the Pippins, Court of Wick, Cox's Orange Pippin, Margil, Reineette du Canada, Dutch Mignonne, Duke of Devonshire, and Sturmer Pippin.

Pears have not only been a poor crop, but indifferent in size and quality. I will name a few that succeed:—Doyenné d'Été, Jargonelle, Clapp's Favourite, Williams' Bon Chrétien, Beurré d'Amanlis, White Doyenné, Comte de Lamy, Seckle, Doyenné du Comice, Marie Louise, Thompson's, Beurré Diel, Zephirin Greigroire, and Bergamotte Esperen. Those are in the open, as well as Catillac, the best stewing Pear. Against walls:—Jargonelle, Beurré d'Amanlis, Gratioli of Jersey, Beurré Superfin, Hacon's Incomparable (this was the fullest in crop and best Pear of the year), Marie Louise, Beurré Diel, Beurré Bachelier, Passe Colmar, Knight's Monarch, Winter Nelis, Joséphine de Malines, Bergamotte Esperen; and Passe Crassane, General Todleben, Beurré Langelier, Napoleon, Jules d'Airolles, Dr. Trousseau, Glou Morcean, and Beurré Rance all do well.

Plums have been scant, and the fruit cracked when ripening. Early Prolific, Orleans, Mitchelson's, Victoria, Winesour, and Crittenden or Farleigh Damsen are culinary Plums succeeding in the open. Dessert Plums succeeding in the open are De Montfort, July Green Gage, Oullins Golden Gage, Green Gage, Jefferson, and Kirke's. Against walls—Green Gage, Jefferson, Transparent Gage, Kirke's, and Cos's Golden Drop are the best of dessert Plums; and Victoria, Prince Englebert, Prince of Wales, White Magnum Bonum, of culinary sorts.

Apricots ripened very imperfectly. Moorpark is unequalled, but Kaisha, Royal, St. Ambrose, Hemskirk, and Oullins Early are good.

Cherries were all but a failure in the open; the only sorts with a crop were Morello and Empress Eugénie. Against a north wall Hearts, Dukes, and Bigarreus were equally prolific with Morellos.

Peaches and Nectarines were a failure; even in cool houses the crop has been very thin, and in not a few instances nearly nil. Royal George is still the best Peach for every purpose, and Elruge the best Nectarine.

Nuts were a good crop, but they filled badly. Bush fruit, except Gooseberries, which varied considerably in crop in different localities, were a very heavy crop, and almost all of it rotted on the bushes. Strawberries a full crop, but the fruit smaller than usual. President was the best by far.

The outlook for another year is not very encouraging, as it is to be feared the prolonged wet will have retarded the ripening of the wood, yet there is a great show of bloom buds of every kind except Pears, which appear only scantily furnished. I shall prune hard, though from close summer pruning there is little to prune beyond sappy spray, which it is no use leaving to fall a prey to gum and canker. Notwithstanding the mildness of the season the buds are not at all forward, so that we may, if we have anything of a winter, hope that the blossoms will escape the spring frosts.

A disastrous season has not been without its effect upon the crops under glass. Peaches, as before stated, were thin in late or cool houses, and Grapes, especially late sorts, have ripened very indifferently and tardily, and I do not expect they will keep well.

Melons have done very badly; neither early, midseason, nor late crops have been at all equal to what we have had in former seasons.—A YORKSHIRE GARDENER.

THE NEW DISINFECTANT.—The purifying and antiseptic properties of the Eucalyptus have frequently been referred to, but it has been left to Mr. Knigzett to extract them and to place them at the disposal of the public in the form of the new disinfectant "Sanitas," which is composed of compounds of

the Blue Gum and Pine trees. The solution is largely manufactured at Bethnal Green.

EXHIBITION ROSES.

It may be in the recollection of some of your readers that I offered Mr. Curtis, if he succeeded in getting the twelve nurserymen named to select ninety-six exhibition Roses, to try and tabulate the same. Mr. Curtis has sent me six returns, which he is anxious should appear. These he thinks might be useful, and accordingly I now send them. He agrees with me, however, that it is not necessary to tabulate the varieties. The first forty-eight when not given here will be found in the Rose election lists in No. 867, November 8th, 1877.—JOSEPH HINTON, Warminster.

Mr. CURTIS, Torquay.

List No. 2, continued from list No. 1 (page 358) of the best forty-eight exhibition Roses.

As so many in this second list of the best exhibition Roses are of equal merit I have thought it well simply to give them in two divisions—first the best twenty-four old established varieties, and secondly the newer Roses, as under.

- | | |
|------------------------|--------------------------------|
| 49. Alba Rosea | 61. Felix Genero |
| 50. Anguste Rigotard | 62. Général Jacqueminot |
| 51. Bessie Johnson | 63. Gloire de Dijon |
| 52. Cheshunt Hybrid | 64. Madame Willermoz |
| 53. Centifolia Rosea | 65. Moiré (Tea) |
| 54. Duc de Rohan | 66. Monsieur Boncenne |
| 55. Devienne Lamy | 67. Madame Hippolyte Jamain |
| 56. David Pradel | 68. Princess Mary of Cambridge |
| 57. Duchesse de Caylus | 69. Paul Neyron |
| 58. Elie Morel | 70. Rubens |
| 59. Emilie Hausburg | 71. Triomphe de Rennes |
| 60. Edouard Morren | 72. Xavier Olibo |
| 73. Abel Carrière | 85. Mdlle. Marie Cointet |
| 74. Amelia Host | 86. Marguerite Brassac |
| 75. Annie Laxton | 87. Madame Prosper Langier |
| 76. Belle Lyonnaise | 88. Mrs. Baker |
| 77. Capitaine Christy | 89. Marie Guillot (Tea) |
| 78. Hippolyte Jamain | 90. Madame Lacharme |
| 79. Jean Ducher | 91. Oxonian |
| 80. Jean Liaband | 92. Perle des Jardins |
| 81. John Stuart Mill | 93. Queen of Waltham |
| 82. Lady Mary Keith | 94. Royal Standard |
| 83. La Souveraine | 95. Souvenir de Paul Neyron |
| 84. Letty Coles | 96. Thomas Mills |

Mr. CHARLES TURNER, Slough.

Second forty-eight, alphabetically arranged.

- | | |
|----------------------------|------------------------------|
| 49. Alba Rosea | 73. Madame Margottin |
| 50. Antoine Ducher | 74. Madame Nachury |
| 51. Beauty of Waltham | 75. Mdlle. Marie Cointet |
| 52. Belle Lyonnaise | 76. Mdlle. Marie Rady |
| 53. Black Prince | 77. Mdlle. M. Dombraïn |
| 54. Capitaine Christy | 78. Mdlle. Thérèse Levet |
| 55. Centifolia Rosea | 79. Marguerite de Gibot |
| 56. Comte de Serenyi | 80. Miss Poole |
| 57. Comtesse de Chabillant | 81. Perle des Jardins |
| 58. Dr. Andry | 82. Pierre Notting |
| 59. Duc de Wellington | 83. President |
| 60. Dupuy-Jamain | 84. Prince Camille de Rohan |
| 61. Elie Morel | 85. Reynolds Hole |
| 62. Emilie Hausburg | 86. Souvenir de William Wood |
| 63. Fisher Holmes | 87. Souvenir d'un Ami |
| 64. François Louvat | 88. Triomphe de Caen |
| 65. Général Jacqueminot | 89. Triomphe de Rennes |
| 66. John Hopper | 90. Vicomte Vigier |
| 67. La Duchesse de Morny | 91. Victor Verdier |
| 68. La Fontaine | 92. Villaret de Joyeuse |
| 69. Le Havre | 93. Madame Prosper Langier |
| 70. Lælia | 94. Sultan of Zanzibar |
| 71. Madame C. Crapelet | 95. Mrs. Baker |
| 72. Madame C. Wood | 96. Jean Liaband |

Mr. JAMES WALTERS, Exeter.

Second forty-eight, alphabetically arranged.

- | | |
|-----------------------------|--------------------------------|
| 49. Annie Laxton | 73. Madame Vidot |
| 50. Antoine Ducher | 74. Mdlle. Bonnaire |
| 51. Anguste Rigotard | 75. Mdlle. M. Dombraïn |
| 52. Anguste Neumaon | 76. Maréchal Vaillant |
| 53. Baronne Bonstetten | 77. Miss Hassard |
| 54. Boule de Neige | 78. Mrs. Baker |
| 55. Comtesse de Chabillant | 79. Oxonian |
| 56. Comtesse de Serenyi | 80. Paul Neyron |
| 57. Devienne Lamy | 81. Paul Verdier |
| 58. Dr. Hooker | 82. Prince Humbert |
| 59. Duchesse de Caylus | 83. Princess Beatrice |
| 60. Duke of Connaught | 84. Princess Mary of Cambridge |
| 61. Duchesse de Vallombrosa | 85. Queen of Waltham |
| 62. Elie Morel | 86. Rev. J. B. M. Camm |
| 63. Exposition de Erie | 87. Richard Wallace |
| 64. Hippolyte Jamain | 88. Sir Garnet Wolseley |
| 65. John Stuart Mill | 89. Triomphe de Rennes |
| 66. Jules Margottin | 90. Belle Lyonnaise |
| 67. La Duchesse de Morny | 91. Cheshunt Hybrid |
| 68. Le Havre | 92. Boule d'Or |
| 69. Louise Peyronny | 93. Madame Hippolyte Jamain |
| 70. Madame Crapelet | 94. Madame Willermoz |
| 71. Madame Georges Schwartz | 95. Narcisse |
| 72. Madame Thérèse Levet | 96. Rubens |

Mr. GEORGE PRINCE, Oxford.

Second best forty-eight.

- | | |
|---------------------------------|--------------------------------|
| 49. Mlle. Thérèse Levat | 73. Marie Guillot |
| 50. Mlle. Eugénie Verdier | 74. Sophie Eropot |
| 51. Baron Haussmann | 75. Madame Georges Schwartz |
| 52. Niphotos | 76. Anna de Diesbach |
| 53. Exposition de Brie | 77. Marquise de Ligneris |
| 54. Baron Adolphe de Rothschild | 78. Etienne Dupuy |
| 55. Annie Wood | 79. Gloire de Vitry |
| 56. Abel Grand | 80. Felix Genere |
| 57. Sir Garnet Wolseley | 81. Victor Verdier |
| 58. Général Jacqueminot | 82. Lord Macanlay |
| 59. Gloire de Santenay | 83. Antoine Ducher |
| 60. Jules Margottin | 84. Madame Charles Crapelet |
| 61. Marguerite Brassac | 85. Marie Van Houtte |
| 62. Monsieur Boncenne | 86. Madame Nachury |
| 63. Paul Neyron | 87. Madame C. Wood |
| 64. Beauty of Waltham | 88. La Reine |
| 65. Claude Levat | 89. Princess Mary of Cambridge |
| 66. Maurice Bernardin | 90. Souvenir d'un Ami |
| 67. Perle des Jardins | 91. Anna Olivier |
| 68. Nardy Frères | 92. Thomas Mills |
| 69. Princess Beatrice | 93. Le Rhone |
| 70. Alba Rosa | 94. Le Havre |
| 71. Duc de Wellington | 95. Souvenir de Arthur Sansal |
| 72. Elie Morel | 96. Marguerite Dombrain |

Mr. GEORGE COOLING, Bath.

Second best forty-eight.

- | | |
|---------------------------------|------------------------------|
| 49. François Lacharme | 73. Marquise de Mortemart |
| 50. Duchesse de Morny | 74. Monsieur Woolfield |
| 51. Duc de Rohan | 75. Paul Neyron |
| 52. Abel Grand | 76. Prince Camille de Rohan |
| 53. Annie Laxton | 77. Thomas Mills |
| 54. Baron Adolphe de Rothschild | 78. Wilson Saunders |
| 55. Jules Margottin | 79. Comtesse de Serenyi |
| 56. Black Prince | 80. Exposition de Brie |
| 57. Centifolia Rosea | 81. François C. ertain |
| 58. Madame Boutin | 82. La Ville de St. Dennis |
| 59. Comte de Nanteuil | 83. La Reine |
| 60. Duc de Rohan | 84. Maréchal Vaillant |
| 61. Devienne Lamy | 85. Duke of Connaught |
| 62. Maurice Bernardin | 86. Souper et Notting (Moss) |
| 63. Duc de Wellington | 87. Souvenir de Malmaison |
| 64. Elie Morel | 88. Adam |
| 65. Mlle. Thérèse Levat | 89. Catherine Mermet |
| 66. Madame Clémence Joigneaux | 90. Cheshut Hybrid |
| 67. Madame Charles Crapelet | 91. David Prade |
| 68. Madame Rivers | 92. Marie Van Houtte |
| 69. Madame Hippolyte Jamin | 93. Perle des Jardins |
| 70. Madame Noman | 94. Lamarque |
| 71. Madame Vidot | 95. Triomphe de Rennes |
| 72. Mlle. Bonnaire | 96. Marie Ducher |

Mr. JOHN DURBIN, Englishcombe, Bath.

Best twelve exhibition Roses in order of merit.

- | | |
|------------------------|----------------------|
| 1. John Stuart Mill | 7. Etienne Levat |
| 2. Sir Garnet Wolseley | 8. François Michelon |
| 3. Alfred Colomb | 9. Madame Rothschild |
| 4. Capitaine Christy | 10. Marie Baumann |
| 5. Charles Lefebvre | 11. Mons. E. Y. Teas |
| 6. Comtesse de Serenyi | 12. Maréchal Niel |

Second best twelve.

- | | |
|-----------------------------|---------------------------|
| 13. Comtesse d'Oxford | 19. Madame Victor Verdier |
| 14. Duke of Edinburgh | 20. Mlle. Marie Rady |
| 15. La France | 21. Sénateur Vaisse |
| 16. Louis Peyronny | 22. Xavier Olibo |
| 17. Mlle. Marie Finger | 23. Perle des Jardins |
| 18. Madame Charles Crapelet | 24. Dupuy-Jamain |

Next best twenty-four.

- | | |
|--------------------------|-------------------------------|
| 25. Duc de Montpensier | 37. Lord Macanlay |
| 26. Marguerite Brassac | 38. Louis Van Houtte |
| 27. Miss Hassard | 39. Madame Hippolyte Jamin |
| 28. Star of Waltham | 40. Mlle. Annie Wood |
| 29. Triomphe de France | 41. Mlle. Bonnaire |
| 30. Antoine Mouton | 42. Mlle. Marguerite Dombrain |
| 31. Dr. Andry | 43. Marquise de Castellane |
| 32. Emilie Hausburg | 44. Souvenir de Spa |
| 33. Ferdinand de Lesseps | 45. Sophie Coquerelle |
| 34. Fisher Holmes | 46. Villaret de Joyeuse |
| 35. Hippolyte Jamin | 47. Niphotos |
| 36. Jean Lambert | 48. Camille Bernardin |

Second best forty-eight.

- | | |
|------------------------------|--------------------------------|
| 49. Duchesse de Vallombrosa | 67. Elize Boëlle |
| 50. Madame Prosper Langier | 68. Victor Verdier |
| 51. Rev. J. B. M. Camm | 69. Wilson Saunders |
| 52. Royal Standard | 70. Gloire de Dijon |
| 53. Souvenir de la Malmaison | 71. Souvenir d'un Ami |
| 54. Cheshut Hybrid | 72. Baron Haussmann |
| 55. Devoniensis | 73. Princess Mary of Cambridge |
| 56. Catherine Mermet | 74. Madame Marius Coté |
| 57. Abbé Brammerel | 75. Paul Neyron |
| 58. Abel Grand | 76. Monsieur Noman |
| 59. Anna Alexieff | 77. Maurice Bernardin |
| 60. Anna de Diesbach | 78. Marguerite de St. Amand |
| 61. Beauty of Waltham | 79. Madame Thérèse Levat |
| 62. Black Prince | 80. François Lacharme |
| 63. Comte de Nanteuil | 81. Général Jacqueminot |
| 64. Duc de Wellington | 82. Gloire de Vitry |
| 65. Duchesse de Morny | 83. John Hopper |
| 66. Edouard Murren | 84. Jules Margottin |

- | |
|-------------------------------|
| 85. Julie Touvais |
| 86. La Reine |
| 87. Madame Nachury |
| 88. Madame Clémence Joigneaux |
| 89. Pierre Notting |
| 90. Prince Camille de Rohan |

Mr. B. R. CANT, Colchester.

List of the best ninety-six exhibition Roses.

- | | |
|-------------------------------|--------------------------------|
| 1. Abel Grand | 51. Marguerite de St. Amand |
| 2. Alfred Colomb | 52. Marie Baumann |
| 3. Antoine Ducher | 53. Marie Rady |
| 4. Baronne de Rothschild | 54. Marquise de Castellane |
| 5. Beauty of Waltham | 55. Marquise de Mortemart |
| 6. Capitaine Christy | 56. Maurice Bernardin |
| 7. Charles Lefebvre | 57. Miss Hassard |
| 8. Comtesse d'Oxford | 58. Mons. Etienne Dupuy |
| 9. Comtesse de Serenyi | 59. Mons. Etienne Levat |
| 10. Devienne Lamy | 60. Mons. E. Y. Teas |
| 11. Dr. Andry | 61. Mons. Noman |
| 12. Duc de Wellington | 62. Mrs. Baker |
| 13. Duchesse de Caylus | 63. Nardy Frères |
| 14. Duchesse de Vallombrosa | 64. Pierre Notting |
| 15. Duke of Edinburgh | 65. Pitord |
| 16. Dupuy-Jamain | 66. Prince Arthur |
| 17. Elie Morel | 67. Prince Camille de Rohan |
| 18. Emilie Hausburg | 68. Princess Beatrice |
| 19. Ferdinand de Lesseps | 69. Princess Mary of Cambridge |
| 20. Fisher Holmes | 70. Rev. J. B. M. Camm |
| 21. François Louvat | 71. Royal Standard |
| 22. François Michelon | 72. Reine du Midi |
| 23. Général Jacqueminot | 73. Reynolds Hole |
| 24. Gloire de Vitry | 74. Sénateur Vaisse |
| 25. Hippolyte Flandrin | 75. Sophie Coquerelle |
| 26. Hippolyte Jamin | 76. Madame Nachury |
| 27. Horace Vernet | 77. Sir Garnet Wolseley |
| 28. Jean Lisband | 78. Star of Waltham |
| 29. John Hopper | 79. Thomas Mills |
| 30. La Duchesse de Morny | 80. Vicomte Vigier |
| 31. La France | 81. Ville de Lyon |
| 32. Le Havre | 82. Victor Verdier |
| 33. Louis Van Houtte | 83. Xavier Olibo |
| 34. Louis Peyronny | |
| 35. Madame Alice Dureau | |
| 36. Madame Charles Wood | |
| 37. Madame Clémence Joigneaux | |
| 38. Madame C. Crapelet | |
| 39. Madame Ferdinand Jamin | |
| 40. Madame Georges Schwartz | |
| 41. Madame Hippolyte Jamin | |
| 42. Madame Lacharme | |
| 43. Mlle. Marie Finger | |
| 44. Madame Prosper Langier | |
| 45. Madame Thérèse Levat | |
| 46. Madame Victor Verdier | |
| 47. Mlle. Eugénie Verdier | |
| 48. Mlle. Marguerite Dombrain | |
| 49. Mlle. Marie Cointet | |
| 50. Maréchal Vaillant | |
| | <i>Tea.</i> |
| | 84. Catherine Mermet |
| | 85. Comtesse de Nadallac |
| | 86. Devoniensis |
| | 87. La Boule d'Or |
| | 88. Madame Bravy |
| | 89. Madame Willermoz |
| | 90. Marie Van Houtte |
| | 91. Niphotos |
| | 92. Rubens |
| | 93. Souvenir d'Elise |
| | 94. Souvenir d'un Ami |
| | <i>Noisette.</i> |
| | 95. Madame Caroline Kuster |
| | 96. Maréchal Niel |

In making this selection due regard has been had to arrangement of colour; at least one half may be considered light Roses, and the remainder dark.

HARDY AZALEAS.

On page 449 I directed attention to the great value of these hardy shrubs for in and outdoor decoration and to their comparative scarcity in English gardens. Except a few of the older varieties of the Ghent Azaleas we seldom meet with examples of these plants either in shrubberies or conservatories. This can only arise, I think, from the newer varieties not being sufficiently known. As no opportunities are, so far as I am aware of, equal to the Belgian exhibitions held in the spring for affording a comparison of the best varieties of hardy Azaleas I will note a few which I have seen there, and which may be fairly regarded as the best yet in commerce.

Ghent Azaleas.—These are so named because they were first raised at Ghent by crossing the Turkish species of *A. pontica* with some of the hardy American Azaleas. The best varieties are quite hardy, and are very beautiful. A few of the more striking are Bijou de Gendbrugge, pure white border with rose; Louis A. Van Houtte, vermillion and orange, very bright; Sang de Gendbrugge, bright reddish crimson; Mina Van Houtte, rose, white, and salmon; Louis Hellebuyck, vermillion shaded with orange; Bouquet de Flore, rose, white, and orange; Rose de Flandre, bright rose and white; Madame Alex. Hardy, white, red, and yellow; Auguste Mechelyneck, white, rose, and yellow; Domenico Scassi, salmon rose, white, and yellow; Guelder Roos, orange and chrome yellow; and Fritz Quihow, deep bright red. I think those twelve varieties cannot be surpassed, and it is noteworthy that nine of them were raised by Van Houtte. Only the more prominent colours are given, details of the spots and stripes being omitted. A few good older varieties are the following:—Queen Victoria, Ardent-



Fig. 92.—AZALEA MOLLIS.

issima, Hilarissima, Canari, Magnificens, Gloire de Belgique, Versicolor, Bijou des Amateurs, Marie Verschaffelt, Perle du Printemps, Antoinette, and Honreuse Surprise.

Azalea mollis.—The varieties of this Japanese Azalea are striking by their large size and various-coloured flowers. The plants when in beauty appear, as I have previously said, as

being "all flowers." The varieties are necessarily limited, and the following include the very best in cultivation:—Alphonse Lavalée, orange, scarlet, and yellow; Chevalier A. de Reali, white, yellow, and orange; Dr. Leon Vignes, white and orange; Comte de Gomer, rose and orange; Isabella Van Houtte, yellow deepening to orange; M. Charles Wambecke, orange, rose, and yellow; M. Arthur de Warelles, salmon, red, and orange; Comte de Quincy, bright yellow deepening to orange; Comte Papadopoli, rose and orange; and Baron de Constante Rebecque, bright nankeen orange. All the varieties named were raised in the establishment of Van Houtte. For conservatory decoration during the early spring months no plants can produce a more imposing effect than the hardy Azaleas above named.—NOMAD.

[The accompanying engraving is a faithful representation of the improved class of flowers which have been produced by cultivation from the original species of *A. mollis*.—EDS.]

HOLME LACY.—No. 1.

THE SEAT OF SIR HENRY SCUDAMORE STANHOPE, BART.

HEREFORDSHIRE is famed for the pastoral beauty of its scenery, its verdant hills and fertile valleys, the extent of its

home but to benefit the district. How real and important are the benefits which have been conferred will be readily admitted when it is stated that the first Lord Scudamore is by many supposed to have been the first or chief introducer of the Hereford cattle, and was the first also to cultivate the Redstreak Apple and to establish the repute of its famous cider.

Before adverting more particularly to the grounds and gardens it may be well to glance at the history of this ancient place and family. So old are they that both of them are intimately connected with the Norman Conquest. Holme is evidently a modern rendering of the Saxon name *Hamme*, which signifies a house, farm, or village; or of *Homme*, a place surrounded with water. The additional name of Lacy was derived from Walter de Lacy, a valiant Norman, who acquired such great possessions soon after the Conquest that his son Roger in the reign of William Rufus had sixty-five lordships in the county of Hereford, chief of which was this one of Hamme, now Holme Lacy.

The family of Scudamore is similarly of great antiquity. It was one of those who followed William the Conqueror into England, as is evident from the roll of Battle Abbey, which contains the name of "Seint Scudamore." This family first



Fig. 93.—HOLME LACY.—SOUTH FRONT.

fruit orchards, the fine proportions of its timber trees, and the celebrated herd of cattle which bears its name. These predominating county features may be seen from one standpoint, the terrace walk of Holme Lacy, which surrounds on three sides the ancestral home of an ancient family. On the north is a sheltering belt of fine timber; on the east a rich and extensive tract of pasture land and meadows sufficiently wooded both to render it picturesque and to afford shade for the white-faced herds which drink at England's most beautiful river, the "graceful winding Wye," which meanders in bright curves through this pleasant valley; in the distance a range of bold Oak and Pine-clad hills—a noble boundary to a charming view. On the south is a park of rare beauty, thickly studded with magnificent trees, having an undergrowth of luxuriant Bracken, amongst which the fallow deer gambol; and on the west is an orchard—a real old Herefordshire orchard, also the garden. Thus the prominent features of an attractive county are embraced in the demesne of one of the oldest of county families, whose ancestors have done so much not only to beautify their

settled in Wiltshire at Upton and Norton, thence called Upton and Norton Scudamore. Walter de Scudamore was lord of the manor of the former place, and the latter was granted to Godfrey de Scudamore by Robert de Ewyas for his homage and service of finding one white horse every year for the sentinel of the Castle of Ewyas. The deed conveying this grant is still extant, and the signature of the first witness to it of Patrick, who was created Earl of Shrewsbury by the Empress Maud, and died in 1167, proves its great antiquity. Eventually the two families of Ewyas and Scudamore became united by marriage, and amongst the issue we find Sir John Scudamore of Ewyas and Holme Lacy. This place has therefore been the residence of the family from a very remote period.

Passing some eminent representatives of the family and their worthy deeds, we pause to note that Sir James Scudamore (whose father was a great benefactor to the Bodleian Library) was an esteemed friend of Sir Thomas Bodley. He was knighted for his valour at the siege of Cadiz; and it is recorded that "no

time will obliterate the brave and generous title that is given of him under the name of Sir Scudamore of Spenser's poem of the 'Faery Queen.' Sir William had two sons, John and Barnabas, both of whom have engraved their names on the history of their country. Barnabas was Governor of Hereford when it was besieged by the Scottish forces. He was twice summoned to surrender by the Earl of Leven, who received the following spirited replies:—"I am not bound to give up the King's garrison upon any summons or letters. . . . I was set in here by the King's command, and shall not quit it but by special order from His Majesty the Prince." Again: "For your favourable proffer to the inhabitants of the city I shall return their thanks and resolution that they intend to suffer with me. . . . I am sorry to think of it that two united nations should so much differ, having paid once well for Scotland's friendship. My Lord, I am resolved to endure all mines and storms which shall be made against this place, and doubt not by God's assistance to render His Majesty a good account of it." The city was not taken. John, the brother of Barnabas, was great in a different way; he is referred to above as the "first Lord Scudamore." He was created Baron of Dromore and Viscount Scudamore of Sligo by letters patent July 2, 1628. He served his country as a diplomatist, and, if I am correctly informed, was plenipotentiary at the Hague, and it was doubtless from Holland that he obtained the breed of cattle that has become so celebrated, also probably the plans for the Dutch garden at Holme Lacy, which it is very likely—though of this I have no direct information—he formed, and which now constitutes one of its prominent features. He was also Ambassador to the Court of France. He was a loyal subject of the King in troublous times, and paid the penalty of his devotion by having his house burnt and his estates sequestered during the civil wars, but subsequently regained them. After having attended as a volunteer for the relief of the French Huguenots at Rochelle he retired into private life, and then it was that he devoted himself to the planting and grafting of Apple trees, which resulted in his for the first time bringing the Redstreak cider into request, which he raised to such perfection that Phillips in his poem "Cyder," speaking of the Musk, a fine and delicate fruit, says:—

"Yet let her to the Redstreak yield, that once
Was of the sylvan kind, unvisited,
Of no reward till Scudamore's skilful hand
Improv'd her, and by courtly discipline
Taught her the savage nature to forget;
Hence called the Scudamorean plant whose wine
Whoever tastes, let him with grateful heart
Respect that ancient loyal house," &c.

Cider made of this kind of fruit was frequently given as a present to foreign princes, by whom it was highly valued. Lord Scudamore died in 1671, and it is recorded of him that "he died a rare example of piety towards God, loyalty towards his king, hospitality to his friends, economy in his family, charity to the poor, and great munificence to the church, upon which it is known he bestowed above £10,000." A noble epitaph.

In 1716 the titles became extinct, and Holme Lacy descended by a female heir to the Hon. Charles Howard, afterwards Duke of Norfolk, who died in 1815, and the Duchess in 1820, and leaving no issue the estates devolved upon Sir Edwyn Frances Stanhope, Bart., the father of the present owner, as the lineal descendant of Mary the wife of Sir Giles Bridges of Wilton Castle, Lady Brydges having been sister of John, first Viscount Scudamore. Sir Henry Scudamore Stanhope has thus not only inherited the ancient name of Scudamore, but has descended from the old family of Brydges, De Bruges, or Brughes, Earls of Carnarvon and Dukes of Chandos. I make no apology for thus gleaming a few facts relative to the history of an old family, knowing that they will be perused with pleasure, for nowhere than in Britain is honourable antiquity held in greater respect, and by none more than gardeners and horticulturists generally are the "old families" and old estates of the country more greatly esteemed.

Having referred to the family I may in the shortest possible manner glance at the mansion, and then more fully describe the externals of Holme Lacy—the park, dressed grounds, and gardens. The original mansion was supposed to have been built within the last ten years of Henry VIII., as appears by the badges of Edward VI. when Prince of Wales, which were found in the house. It was in a great part rebuilt by the second Lord Scudamore in the reign of William III., and the late owner, Sir Edwyn Stanhope, made extensive and costly alterations. Although not so large as it formerly was the

structure is extensive. It has three principal fronts. The north and east fronts are nearly 200 feet in length, and the south front 150. It is approached on the north by a terrace 700 feet long and 47 wide, and the south terrace is 800 feet in length and 30 feet wide. The arrangements internally are proportionally imposing. The entrance hall opens into a gallery 90 feet in length, lighted by stained glass windows, in which are depicted the arms of Bridges, Scudamore, and Stanhope. The principal rooms are of considerable dimensions, and communicate with each other with folding doors to the extent of 130 feet. The ceilings are extremely elaborate. The portraits—by Vandyke, Sir Peter Lely, and others—command attention, and the superb carvings of Grinling Gibbons are both extensive and exquisite—such carving that led Walpole to say, "There is no instance of a man before Gibbons who gave to wood the airy lightness of flowers, and chained together the various productions of the elements with a free disorder natural to each species." There are also real flowers and living plants in every available position, which afford evidence that the beauties of nature are cherished by Sir Henry and Lady Scudamore Stanhope, and that their garden affords to them real pleasure, as it assuredly receives their personal supervision and solicitous care.

The park at Holme Lacy merits special notice not so much for its size as for its bold rugged beauty. It afforded the standpoint for securing the view of the mansion (fig. 93), from which, as is seen, the ground slopes to the water. Beyond the water, as seen from the terrace, it again rises somewhat abruptly, forming heavily wooded slopes to an open plateau, which commands extensive views of the surrounding country, including the Black Mountains in Breconshire, the Cleve Hills in Shropshire, the Malvern Hills in Worcestershire, &c. A great portion of this park no doubt consists of the primeval forest. The giant Oaks of venerable mein and with rugged trunks suggest that they were there before even either De Lacy or Scudamore won their spurs at the battle of Hastings. How fertile is the soil of this forest-park is not more evident by the size of the timber than by the luxuriance of the Fern (Bracken), which grows 8 to 9 feet high, and covers the ground by acres, but chiefly as commanding attention are the trees. Let us look at them. That can the better be done since they are named and have their dimensions duly registered. First is the Tryeting Oak, a marvellous relic of olden times, a wonderful example of the longevity and innate vigour of the British Oak. It is not the trunk of this specimen that is imposing so much as its wide-spreading head. Its measurement was taken in 1875, when the circumference of the trunk at 3 feet from the ground was 29 feet 3 inches; at 4 feet, 27 feet 6 inches; and at the ground 34 feet. The branches extend in a horizontal manner and from 72 feet from the trunk, and cover a space of 1365 square feet, or nearly a quarter of an acre, and the tree is estimated to contain 4000 feet of timber. Another example, The Monarch, appears as healthy as a young tree. Its symmetry has been somewhat injured by the wind, yet it is a dignified and majestic tree. Its stem at 3 feet girthed 22 feet 3 inches when measured four years ago. Other equally notable specimens are the Norman, the Scudamore, the Union, the Seneschal, the Chieftain, the Warrior, the Raven's Oak, the Earl King, the Queen Mab, grotesque by its rugged corrugations; Robin Hood, representing a gigantic leaning tower; and the Weird Sisters, a Yew and Oak, so interlocked that one of them has been embraced to death by the other. Other trees than Oaks are similarly noteworthy. One of the Elms which was measured in 1869 then girthed 22 feet 3 inches at 5 feet from the ground, and reached a height of 104 feet. Larches girth upwards of 12 feet and exceed 100 feet in height, and Silver Firs have attained to nearly the same dimensions. Except the Oaks, which stand in solitary dignity and which were "born to the soil" centuries ago, the other old forest trees have been planted with considerable taste. They have been arranged in groves, and the different hues of their masses of foliage as seen from the mansion produce an excellent effect. Their trunks also as we walk amongst them, grove merging into grove—now Beeches, now Elms, now Chestnuts, now Ash, now Firs—have an attraction of their own, and impart a sylvan beauty to a singularly and variedly beautiful park. A few Yews also are of great size and have, like the Oaks, apparently been growing for centuries.

The present owner of Holme Lacy owes much to his ancestors, who have planted trees so freely yet judiciously; but he is not one of those who think the trees will live for ever, and that no duty devolves upon them to sustain and

to improve the time-honoured character of the richly wooded parks which they have inherited. No previous Lacy or Sendamore or Stanhope have discharged their duty of tree-planting and preserving more conscientiously than has Sir Henry Sendamore Stanhope of the Victorian era. Not in belts, and groups, and groves of deciduous trees only is his work represented, but the splendid Conifers—Wellingtonias, Deodars, &c.—which are interspersed with the grand old baronial trees are living memorials of the present baronet's innate love of trees, and his taste in grouping them effectively. It is sufficient to mention one of Sir Henry's tenets on tree-planting to satisfy that Holme Lacy's arboreal fame cannot be impaired while in his keeping. It is this—that every owner of property, such as parks and grounds wherein trees are a chief and natural feature, should plant hardy trees which are introduced to the commerce of this country during the term of his possession. Fortunately the home-loving, tree-loving, Nature-loving owner of this fine Herefordshire seat became impressed with that excellent idea in early life, and even before he attained his majority, now many years ago, he had permission to carry it out. Hence he sought out what trees were wanted to render the collection complete, and these he planted in well-chosen positions. The trees were chiefly Conifers, many of which are now noble specimens. Some are in conspicuous positions and planted singly, others are in groups and groves partly hidden by the larger trees and which come upon the visitor as a pleasant surprise. Indeed this is a park of surprises, of varied, bold, and romantic scenery. In one part a bold bluff surmounted with Pines commands admiration; in another a deep dell carpeted with Mosses, Ferns, and shaded by forest giants, compels a sudden pause for appreciation. Now we are in one of Nature's retreats with vegetation rampant, and from the quietude of which the deer, and the hare, and the pheasant are startled by the intrusion of man; again we emerge and are in an open plain overlooking the tops of the trees to the spires and the hills beyond. Such is the nature of this cherished park where grand old timber trees of this and thriving Conifers from other countries blend and beautify. All the trees planted by Sir Henry are duly registered; their height being entered, time of planting, and any other point of import connected with them. As an instance of their growth we note a Wellingtonia planted when about 6 inches high in 1855, and in 1875 or twenty years afterwards it was 37 feet 6 inches high, 6 feet 6 inches in girth at 3 feet from the ground, and 9 feet 9½ inches at the ground line. Cedrus Deodara, Pinus Cembra, Benthiana, excelsa, and others; also Picea Pinsapo have grown in the same satisfactory manner.

This unique park as viewed from the mansion down the glade (which is shown in the engraving) is highly imposing and singularly ornamental. This glade, it can only be said now, is a portion of the Dutch garden. The terraced avenue masked with Yews is 45 yards wide and 100 yards long. The mode of excavation that has been adopted renders the water in the valley visible from the windows of the mansion. More particular notice of the dressed grounds, topiary work, ancient and modern flower gardens, old orchards and young diagonal cordons, with a reference to an old Pear tree—a travelling tree—a marvellous and abnormal specimen which has “travelled” over an acre of ground, must be deferred.—J. WRIGHT.

VINE BORDERS.

MUCH sound advice has been lately given in these columns by “A KITCHEN GARDENER” on the above subject, but at the same time there are some statements which I cannot allow to pass unchallenged.

In the Journal for October 11th “A KITCHEN GARDENER” evidently proves to his own satisfaction that inside borders are all a mistake; but to my mind he proves something entirely different—namely, that all the inside borders which have come under his observation have been badly managed. On page 281 I read—“We will go no further than this season for a comparison between the two. Look at Vines now with their roots wholly inside and the fruit hanging on the rods. With the idea of improving the flavour of the fruit the border is kept nearly dust-dry.” By whom? I would ask. “Many of the leaves are changing colour,” he continues; “but not the colour of slow maturity; they appear as if shrivelled and scorched. Can this be otherwise than injurious to the future well-being of the Vines?” Of course not. It is the description of Vines under decidedly bad management. If I were to place a bird in a cage and allow it to dwindle from semi-

starvation it would not prove that a bird could not be kept in good condition in a cage. I need not follow “A KITCHEN GARDENER” further in this article, because all his reasoning only proves what I have endeavoured to point out repeatedly—that inside borders, as a rule, do not have a tenth part of the requisite quantity of water; but I was not aware till I read “A KITCHEN GARDENER's” article that there were in these enlightened days any quite so badly managed as are therein described.

As a proof that Vines are not always deficient in vigour when their roots are confined to the inside of the house, I may be allowed to refer to the engraving from a photograph in the Journal for December 21st last year. Not only are the roots of the Vines there shown confined to the inside of the house, but till within a fortnight ago they were restricted by means of bricks and concrete to a space of about 15 feet by 7 for each Vine, and 2 feet 9 inches deep. I cannot from actual experience positively contradict “A KITCHEN GARDENER” when he says that “Vines will succeed much better through all their existence when their roots are outside than in,” because it is not yet nine years since the eyes were inserted to raise the Vines shown in the engraving, and the range of which this is a portion contains the only instance of permanent inside Vine borders which have been under my own exclusive management; but I can assure “A KITCHEN GARDENER” that the Vines show no sign of debility at present; on the contrary, they, as well as the fruit they bear, improve every season. Four Vines (Muscats), one at each corner, now completely fill the compartment, which is 30 feet by 30.

My advice as regards the situation of Vine borders would depend on the means at command, the skill of those in charge, and the result expected. If tolerably good Grapes of the Hamburg class only were wanted from August to November with the least amount of labour, I have nothing to say against the borders being entirely outside; but if very superior fruit is required of Muscats or other Grapes which take a long season to ripen, then an inside border has many advantages, provided those in charge thoroughly understand it. Inside borders are also the best for forcing any kind of Grape. On the other hand, an unskilful man is more likely to meet with a fair amount of success if his borders are outside, because Nature will then do her best to make up all deficiencies.

I will now pass on to the Journal for November 29th, where I notice “A KITCHEN GARDENER” recommends the most extraordinary mixture for making Vine borders that I have ever heard of, and I doubt very much if either he or anybody else could grow Grapes in it. I have waited some time before noticing it, thinking possibly there might have been some printer's or other mistake which would have been corrected the first opportunity, but no correction has appeared at present to my knowledge. It reads, “The principal compost consists of moderately heavy loam with one-third decayed cow dung, the same of wood ashes, and about one bushel of smashed bones to every cartload of the whole.” Does “A KITCHEN GARDENER” seriously mean to advise equal parts of loam, cow dung, and wood ashes, or do I misunderstand him? My compost consists merely of loam with just a sprinkling of half-inch bones, perhaps about a bushel to fifteen cartloads. If the soil were likely to bind I would mix charcoal with it, which we make ourselves, and which is decidedly preferable to wood ashes.

The inside border, being completely under command, will bear to be much heavier and closer than an outside one.—WILLIAM TAYLOR.

OUR BORDER FLOWERS—POPPYWORKS.

BOCCONIA CORDATA or Tree Celandine is said to have been introduced to our gardens in 1795 from China. It is figured in the “Botanical Magazine,” and was named in memory of Paolo Boccone, M.D., a Sicilian. How a plant with such attractive properties and stately appearance has so long remained in the background I am not prepared to say. Now that plants are so much sought after for decorative purposes the Bocconia under notice is worthy of extensive cultivation. Those who are searching for hardy plants to produce effect in large open spaces in shrubberies or in borders, and as single specimens in ornamental grounds where plants of striking character are required here and there, will find in Bocconia cordata a fine acquisition. It grows freely in a mixture of good loam and sandy peat in equal quantities, a little leaf soil, and well-decayed vegetable matter. It is a strong-growing plant,

and for the full development of its handsome proportions should have room afforded it. The soil intended for its reception should be broken up to the depth of 3 feet, and the above-named compost well incorporated with the best of the soil where it is intended to grow. It should have thorough drainage, being a gross feeder; when required it should be supplied with water, all the better for having weak liquid manure water now and again; it is increased by division in the spring when growth is commencing.—*VERITAS*.

MARKET APPLES.

MR. ROBSON in his welcome remarks on page 450 has directed attention to a failing point in the popular Apple Cellini. It is too tender, Mr. Robson has said, to travel a long distance well, and the fruit does not turn out of the baskets in good condition. From the fact that Cellini is an Apple of good appearance and quality, also that the tree has proved a good bearer even during the past barren season, it is probable that trees of it may be rather freely planted. It becomes, therefore, the more important to give prominence to any bad qualities that it may possess, that they may either be disproved or substantiated. I have grown this Apple with satisfaction to myself and employers, but have not had experience in marketing its fruit; but I have had the advantage of listening to a cultivator whose opinions always commanded respect—the late Mr. J. R. Pearson of Chilwell, whose views coincided with those of Mr. Robson on the bad travelling properties of the Apple in question. I have heard Mr. Pearson remark that Cellini was an excellent Apple for home use, but it would never be popular as a market Apple. Twelve hours in a basket and a hundred-miles journey on a railway was in his opinion quite sufficient to spoil the appearance of the fruit. This is a matter of such importance to so many cultivators that I think it unadvisable that the experience of one—for no doubt Mr. Pearson spoke from experience—should remain unpublished. Those who have had much practice in the gathering and storing of Apples cannot but have observed how the bruises received by one kind will spread and show, while those of another remain almost imperceptible, and, indeed, apparently diminish.

The Apple which Mr. Pearson considered one of the most valuable for early market purposes is the Duchess of Oldenburgh, an early free-bearing variety of Russian origin. I have heard that gentleman state that no Apple of its season would travel from Nottingham to Manchester so well as the Russian. None other, he remarked, could "hide its bruises" so well; in fact he observed that it improved in appearance after having been removed from the baskets, the bruises apparently vanishing, while those of Cellini always increased. The Duchess of Oldenburgh is a handsome Apple—good in size, colour and quality; and as it ripens early (August), and the tree is a healthy grower and great bearer it is worthy of the attention of cultivators. It forms an attractive bush or pyramid, and is suitable for small gardens.

A popular market Apple in some districts of the north of England is a small very richly coloured sort called Lord Lennox. It is a dessert fruit, but not of particularly high quality, yet is fairly good. It is chiefly on account of its round pleasing form and bright scarlet colour that it is esteemed as a market fruit. The tree is a very clean and free grower, and it forms, when unpruned, natural spurs, and produces heavy crops of fruit. It roots more freely than most other sorts, and seems to thrive in almost any sort of soil. I have seen it growing almost in a swamp; indeed quite so during the winter months, and have never yet observed a speck of canker on either root or branch. It has never occurred to me before this moment that Lord Lennox would probably form an excellent stock for the Ribston Pippin, which is yet the favourite market Apple for dessert purposes, but seldom seen on account of the proneness of the tree to canker. Will someone having an opportunity of doing so graft the Ribston Pippin on the Lord Lennox stock, and in due time report progress? A few years ago I was compelled to plant twelve Apple trees in as many sorts in a very low wet soil, and Lord Lennox is the only one that is entirely free from canker. It makes a fine standard tree, and its fruit does not readily blow off during a brisk wind. It is probably a local Apple, and I know nothing of its origin or history.

Two other local Apples of undoubted usefulness, especially as orchard standards, have been favourably mentioned in the *Journal*—namely, the Russian Transparent and Bramley's

Seedling. I have not yet grown these Apples to a bearing state, but I have seen them growing and fruiting. They are both of them fine and profitable Apples that anyone can grow who has room for full-sized standards. They only require to be planted, and they will grow and form natural spurs and bear large fruit of excellent quality for culinary purposes. They are both of them "market Apples" which, when once in a bearing state, will pay producers and satisfy consumers as well as any Apples of their kind and season that I am acquainted with.

Beauty of Kent is a good "market Apple," but by no means a local sort. It is mentioned now by way of knocking away a prop, if possible, that supports a popular delusion. This Apple is supposed to be suitable for the southern districts of England only. I have seen it flourish in the north and produce good crops when many other sorts had succumbed to the inclemency of the weather. So far from its being a tender sort I consider it as hardy as Dumelow's Seedling, or, as it is called in the north, Normanton Wonder. Beauty of Kent, besides being hardy, is a free bearer; its fruit is large, of good colour, and of superior culinary quality.

Normanton Wonder is a favourite "market Apple" in the north, not because of its high quality, but because of its firmness in late spring. As a "May-day" Apple it is perhaps the first favourite in many districts. The tree generally bears heavily, and the fruit usually commands a good price.

Another Apple of great promise as a market sort is the Worcester Pearmain. The tree is a good grower and bearer, and the fruit is extremely handsome and highly coloured—almost blood red, and of the first quality. It can hardly fail to become very popular, possessing as it does such a combination of attractions—namely, easy to grow, fine to look at, and excellent to eat.

Warner's King is a very favourite market Apple. The tree is a good grower and bearer; the fruit is of large size, of good appearance, and of excellent quality. "King" Apples, as they are often called, are extremely popular in the north.

I have only mentioned a few useful market Apples which I think are not quite so well known as they deserve to be. There may be others equally good, and which are passed over because their usefulness is admitted. I will only allude to one that Mr. Robson has made to look "rather small"—Lord Suffield; and of this I will only say that if returns could be had of the number of different sorts that are annually grafted and sold, I believe Lord Suffield would be found to far outnumber any other Apple grown in Britain.

I think with Mr. Robson that the Apple is at least as important as the Rose; but admirers of Apples are not so enthusiastic or possess such facile pens as do lovers of Roses, or the relative merits of varieties of the most serviceable of hardy fruits would be more freely discussed.

The crops in the north have been scant this year, and much fruit that set did not attain to more than half the usual size: it was also so malformed by injury from hail and severe weather as to be in a great measure unrepresentable at exhibitions.—A NORTHERN GARDENER.

NOTES AND GLEANINGS.

WE are glad to learn that the amount in the funds at the credit of the GARDENERS' ROYAL BENEVOLENT FUND is now £11,300, the additional sum of £300 having been recently purchased. In consequence of the death of two pensioners having occurred since the election lists were issued two more will be added on the recommendation of the general meeting.

THE dates for the exhibitions of the NATIONAL ROSE SOCIETY for 1878 are now fixed. The metropolitan Show will be held at the Crystal Palace on Saturday, June 29th, and the provincial Show at Manchester on Saturday, July 6th, in connection with the Manchester Botanical Society. In both instances the Hon. Secretaries regard the arrangements as very advantageous to the interests of the Society; they have endeavoured to get some other day in the week, but were obliged to give way. The Executive Committee will meet early next month to arrange the schedules in order to submit them to a general meeting of the Committee.

THE HORTICULTURAL CLUB, which has been located hitherto on the Adelphi Terrace, are about to migrate to the Temple Club in Arundel Street. There can be no doubt as to the change being for the better, and consequently in the interests of the Club, which have certainly suffered from its

connection with its former habitation. Great complaints were made by members of the Club with the arrangements that were made for their accommodation, and this was the cause of many resignations. We hope now that these inconveniences are at an end we shall see the return of the old, and a large accession of new, members.

— Mr. JOHN WARDLE, gardener, Newton Hall, informs us that his relative, Mr. William Wardle, who was formerly an amateur gardener at Newcastle, was the raiser of ALLAMANDA WARDLEANA. It is one of the finest of the Allamandas, flowers having been produced at Newton Hall 8 inches in diameter: the plants flower freely in quite a small state and are very valuable for decorative purposes.

— We have received from Mr. George Duffield of Brampton Lodge a FASCATED STEM of DUCHESSE DE MORNAY ROSE. The stem was quite flat, about three-sixteenths of an inch in thickness, and was nearly 2 inches wide. The summit was covered with foliage, and almost resembled a fan. We never saw a more striking instance of Rose fasciation. The exuberant growth suggests that the soil at Brampton is very rich and suitable for Rose cultivation.

— I do not understand, writes an experienced gardener to us, after thirty years of practice, the DEFINITION of a CAULIFLOWER or BROCCOLI. Which is which? My ideas were that a Cauliflower referred to such as if sown in spring would head the same summer or autumn, and a Broccoli if sown in spring would not "flower" the same season. Will some of your correspondents tell me how to know a Cauliflower from a Broccoli (not Cape)? If Snow's Winter and Veitch's Autumn Broccoli are only distinguishable from Cauliflowers by "flowering" later, why designate them as Broccoli? Walcheren Cauliflower is also Walcheren Broccoli, but it is as much a Cauliflower as Early London, Asiatic, Stadtholder, Autumn Giant, and others boasting the name of Cauliflower. Either some Broccoli are Cauliflowers or all Cauliflowers are Broccoli.

— We have received the schedule of the PELARGONIUM SOCIETY'S SHOW which is to be held next year at South Kensington on June 18th. Every section of the Zonal Pelargonium is provided for, and liberal prizes are offered in thirty-three classes. In order to meet the increased expenditure incident to the expansion of the operations of the Society, members are invited to exert their influence in obtaining an augmentation of the subscription list. We are pleased to observe that the finances of the Society are in a healthy state, and that a balance in the hands of the Treasurer of £42 6s. 8d. is recorded. The Zonal Pelargonium is so popular and useful, is in fact an "everybody's flower," that the Society which is established to promote its improvement is highly worthy of support. Since many of the varieties are proving so valuable for winter decoration it is worthy of consideration as to whether prizes should not be offered to be competed for during the winter months, say at the December and January meetings of the Royal Horticultural Society. Healthy and well-bloomed plants are fully more valuable in winter than in summer, and their successful cultivation during the "dark days" is worthy of the encouragement of this patron Society. Mr. Cannell has shown what splendid flowers some of the varieties produce in winter; but we should like to see plants as well as cut blooms exhibited.

— It is with much regret that we have to record the outbreak of a calamitous fire which occurred on the morning of the 23rd inst. at the works of the eminent horticultural builders, Messrs. John Weeks & Co. of Chelsea. The branch establishment destroyed is the one adjoining Mr. Bull's nursery, which also, we regret to hear, sustained injury, one of the houses being burnt, but most of the plants were fortunately preserved. Notwithstanding the efforts of the firemen, engines, and hydrants, Messrs. Weeks's large building and much valuable machinery were totally destroyed. The origin of the fire is unknown; and the loss amounts to £10,000, of which about £2500 is covered by insurance. A firm so extensive as the Messrs. Weeks do not, however, "put all their eggs in one basket;" they have yet three other establishments for carrying on their business, which we are authorised to announce will be conducted in the usual way. They have received much kindness and sympathy from their neighbours, several engineers and builders having placed their plant, &c., at the disposal of the firm.

— We have received a selection of those useful annuals LETT'S DIARIES. They are in various sizes, from the small

miniature for the vest pocket to a considerable-sized scrap book. They are conveniently arranged, and contain much useful information on a variety of topics. We have experienced the value of these familiar diaries, almanacs, and pocket books during previous years, and can recommend them as being as good as ever—excellent of their kind.

— It is gratifying to know that living plants of the remarkable WELWITSCHIA MIRABILIS are now in the Kew Botanic Garden, several attempts to introduce this curious plant in a living state having failed. Even imported seeds have failed to germinate.

— A VISITOR to Mr. Bass's fine GARDEN at RANGEMORE informs us that extensive alterations are being conducted by Mr. Bennett. An additional twelve acres are being taken in to the pleasure ground. The lake is being enlarged, and much levelling and planting is being done. The mild weather is an immense advantage to the prosecution of the alterations.

— OUR correspondent, "A KITCHEN GARDENER," writes to us as follows on the value of the ARBUTUS:—"At this time of year when there is such a demand for berried evergreens it may interest some of your readers to know that the Arbutus far excels every other shrub for the beauty of its fruitful sprays. We have over a dozen trees of it, some of them between 20 and 30 feet high, with clusters of ripe Strawberry-like fruit hanging from every branch. The fruit is just about the size, shape, and colour of ripe Black Prince Strawberries. The shrub grows freely amongst other evergreens, and although it is generally considered to succeed best near the sea, it is well worth trying in inland gardens." We may remark that this beautiful evergreen flourishes well in the southern counties of England, but we doubt if it is sufficiently hardy for exposed gardens in northern districts. What does Mr. Abbey say of its endurance in Yorkshire?

— THE great desideratum in fruit is something very late or early; it is not always that one sort possesses both properties. Having been induced to try SUTTON'S ROYAL HORTICULTURAL PRIZE MELON we cut the earliest on the 1st of May and sent in the last on Christmas day, my employer saying the last was as good-flavoured as the first; it is also a good setter and free grower.—EROMEGNAR.

— RESPECTING the WEATHER IN SOUTH WALES, a reader of the Journal there writes:—"The weather here is very mild and humid. Since the middle of October it has rained half the time. Previous to that we had capital weather, and fruit-tree wood is fairly well ripened. We have had a cold night or two, but a few Potatoes growing on a south border are as green in the haulm as in June. Young Cauliflowers and Lettuces for the earliest crops in spring are strong and healthy out in the open border. They have never had any protection. Violets are abundant in the open air. Primroses may be gathered in handfuls. Last year we could hardly find a single Holly berry: this year every tree both green and variegated is literally loaded with them. Last year at Christmas we had armfuls of Laurustinus flowers: this year we have not handfuls. A sharp frost would do much good, but we do not have much of that here; and as for snow, we have very rarely the pleasure of seeing it."

— MM. LECHARTIER and BELLAMY give an account in the *Comptes Rendus*, lxxxiv., 1035, of some experiments they made on the FERMENTATION OF APPLES when enclosed in vapours such as carbolic acid, camphor, and potassium cyanide. From their results it appears that no fermenting action took place in the Apples surrounded by vapour of carbolic or hydrocyanic acids, and a slight action only in the one surrounded by camphor vapour. The camphor vapour, in fact, diminishes without entirely destroying the vitality of the cells. In this journal, also, there is an account of experiments performed in the same direction by M. Gayon. He enclosed the Apples in vapours of chloroform, ether, and carbon disulphide, and his results agree with those of the first observers. The chloroform and ether act in the same manner as the carbolic and hydrocyanic acids; the carbon disulphide in the same way as camphor, permitting partial fermentation only.—(Nature.)

— A WELSH correspondent sends us the following extract from the ancient laws of Wales to show the value of Yew in long bygone days, especially when it had been consecrated by the priests: it then exceeded in price the sacred Mistletoe of the Druids:—"A consecrated Yew, its value is a pound; not consecrated, fifteen pence. A Mistletoe branch, threescore pence. An Oak, sixscore pence. A sweet Apple, threescore

pence; a sour Apple, thirty pence. A Thorn tree, seven pence halfpenny. Every tree after that, four pence."

— THE weight, says an American writer, affords the easiest test for the PURITY OF GUANO. A bushel of pure Peruvian guano, according to most authorities, should weigh almost exactly 70 lbs. If heavier than 73 lbs. it is adulterated with clay, sand, marl, or some other impurity.

— THE *Prairie Farmer* states that \$2,500,000 worth of American dried fruits have been sold in Europe during the last twelve months; also that Ohio has 381,000 acres of Apple orchards, and raised this year 15,000,000 bushels of Apples.

— SOME few months ago, says the *Mercantile Gazette*, a pathetic lamentation went the round of the press, emanating from M. Piesse, in consequence of the Russo-Turkish war interfering seriously with the manufacture of ATTAR OF ROSES. The last number of the *Indian Agriculturist* thus comments upon it:—"M. Piesse, of the firm of Piesse & Lubin, the celebrated perfumers, writes quite romantically to the *London Times*, 'Come, then, Western Australia! come, then, Queensland! come, then, Fiji! all the Roses you can grow will be a welcome to British commerce. This article is worth alone £80,000 sterling per annum.' M. Piesse had evidently no idea of the Neilgherries and the Roses that grow upon them. Ootacamund and Coonor should be in a position to supply M. Piesse with a very large quantity of the article he needs. The manufacture of attar of Roses is simple enough, and no difficulty will be experienced by those who are inclined to try it to get the necessary information. This source of industry may prove the means of relieving many who are now suffering from poverty on these hills."

— "EROMEGNAR" sends us the following note of his experience on the question of LOAM *versus* PEAT FOR RHODODENDRONS:—"In making some alterations we had to remove a bed of large Rhododendrons. The bed had been excavated 3 feet deep, one half having been filled with peat, the other loam. There was no comparison in their rooting. Those in loam had balls as large as the body of a cart; in the peat, on the contrary, they were not a quarter the size, and you could tell to a plant how far each kind of soil extended before the shrubs were taken up."

NOTES ON VILLA AND SUBURBAN GARDENING.

ALL work that has been advised in previous calendars and not yet completed must be finished without further delay, for with the ushering-in of the new year garden work and garden cares commence afresh. In a very few weeks many operations will be found pressing to be done at one time, consequently all work that it is possible to do to facilitate work in the spring should be done at once. The wheeling of manure, the trenching of ground and laying it in ridges for the frost to act upon it, the pruning of all kinds of fruit trees, the sweeping and rolling of lawns, and the turning of the borders under shrubs, all constitute work for the present time. Adapt the work, too, to the weather, and both master and man will be benefited. For instance, manure is best wheeled during frosty weather, for then the paths are hard and firm. Trenching is brisk warm work for cold dry days, and warm pleasant days are the most profitable for pruning. After rain the roller will make the greatest impression on lawns, and is highly beneficial if an even and thick sward is wished for. It is surprising how great are the advantages of adapting the work to the weather—working with the head as well as with the hands.

Peaches and Nectarines on walls should be all unnailed and the branches be secured to stakes some distance from the walls, in order to retard the buds as much as is possible, for the longer the expansion of the blossom can be retarded the greater is the chance of favourable weather during the setting period, and of a good crop of fruit resulting.

Apple and Pear trees, whether grown as bush or pyramid trees or in the form of espaliers by the side of walks, &c., should be carefully pruned and trained now. A judicious thinning of the small weak wood is necessary, keeping the centre of the tree, in the case of standards, open, so as to admit a free current of air through the trees. The pruning of all small fruits, such as Gooseberries, Currants, and Raspberries, must not be delayed after this time. Gooseberries and White and Red Currants should have their centres kept open by pruning all side shoots nearly close to the main branches, removing also the points of the principal or permanent portions of the bushes; but Black Currants merely require an old shoot or so to be removed to prevent overcrowding. Raspberries require to have the points of the canes shortened, removing also the weakest of the superfluous canes. Some cultivators secure the canes to stakes,

others have a wire trellis to which they tie them out separately, while some train them by what is known as the arch system—that is, the points of the rods from one stool are secured to the points of another, and by this means the growth is well exposed to the light. All the modes of training alluded to answer well, and that one may be adopted which is the most convenient. Gather up all prunings, and those of the Apple and Pear may be tied in bundles and be reserved for small flower sticks, while the prunings of Gooseberries and such like should be burnt, when not required to be made into cuttings.

Shrubberies and pleasure grounds are now attractive where Holly abounds. So numerous are Holly berries on some trees this season that they almost make the foliage look dull and sickly by contrast. *Jasminum nudiflorum* just now clothes the walls of many a villa home with its clear yellow flowers, while the *Arbutus* and *Laurustinus* are heavily laden with clusters of white and graceful blooms, and *Garrya elliptica* is profuse with its bold and drooping catkins. All of the shrubs impart a charm to an otherwise dull and dark month, and make us feel that, after all, there is always something to admire in a well-furnished garden be it ever so small.

Vines in houses where there is not much artificial heat have nearly shed their foliage. They are now ready for pruning, dressing, and cleaning. The system of pruning most common as yet is the spur system, according to which the laterals are pruned back to within about two eyes of the main rod. Employ a sharp knife for the work, and do not cut too close to the bud. Wash the rods with soft soap and tobacco water, and they may also be painted over with a mixture of sulphur, tobacco water, and clay, as thrips and other insects may be lurking within the crevices of the bark. All inside borders will require a good soaking of water, for though the tops are apparently dormant the rootlets are active. It is well to remember that the finest Grapes as a rule are grown where the rainfall is the heaviest.

Bedding Geraniums require to be frequently looked over and to have all decaying leaves removed. They must be watered moderately, for nothing is gained by allowing them to become dust-dry, more especially if a little fire heat is used. *Cinerarias* and *Calceolarias* are growing well, and are as a rule strong and healthy. They should be kept near the glass and liberally supplied with water on fine mornings. Continue to bring in fresh batches of bulbs, *Spiræas*, *Deutzias*, *Azaleas*, *Rhododendrons*, *Lilacs*, *Dielytras*, *Roses*, &c., for forcing as wanted, and other *Roses* in pots will require pruning for later supplies. Before pruning see that the soil has become tolerably dry, then with a sharp knife cut away all weak shoots. Place a strand of cord round the rim of the pot, and bring gradually down sufficient shoots to lay the foundation for a compact plant. The shoots so tied down make more breaks than they otherwise would do if left erect, and consequently will give a greater supply of flowers. Do not attempt too high a temperature for forcing the *Rose*; from 50° to 55° is ample. Syringe frequently, and as growth commences give more water. It is a very good plan to prune some weeks previous to starting the plants into active growth.

Leaves that have been collected and laid in a heap should be mixed with some long and fresh stable manure for the purpose of forming a hotbed for the raising of early frame Cucumbers, the striking of numerous cuttings, and the raising of seeds during the spring months. Directions for the making of the beds will be given in due time; for the present allow the materials to ferment and sweeten.

DOINGS OF THE LAST AND WORK FOR THE PRESENT WEEK.

HARDY FRUIT GARDEN.

WE have already given the various details of the work on the open ground and on walls. There are, however, exceptional conditions that must be taken into account, such as undertaking the charge of a garden where the trees have for years been neglected. It was our own experience to do this once, and we found weeks of employment in thinning-out the wood where it was too thick, taking care at the same time to leave a sufficient number of fruit buds for a crop the following season. In pruning standard trees the right principle is to thin-out the outer branches liberally, so that the sunlight may play freely on the fruit about the centre of the trees. Old and neglected trees will have very few fruit buds near the centre; they will nearly all be found on the outer branches. When standard trees are well managed from the first the inner branches will be furnished with fruit buds, not to the same extent as those on the outer side, but they will be evenly distributed over the trees, and the branches will not be so liable to break with their load of fruit in seasons of plenty. Neglected wall trees, especially Pears and Apples trained on the espalier system, are most unsightly objects. We have seen them with the spurs projecting nearly half a yard from the main stems. The best thing to do when this is the case is to cut the spurs back rather closely. Such treatment may have the effect of very materially diminishing

the chances of a crop of fruit the following season; but the trees will be made slightly, and by good management they can very speedily be brought into a bearing condition.

It is not wise to train the horizontal growths too near each other; 9 inches apart is a good distance, and when the walls are of brick it is easy to train the growths along the seams. When the wall is quite furnished the only attention required for such trees is to keep the spurs close to the main branches. Fan-trained trees are rather more difficult to keep in order as the trees get old. The fruitful portions are to be found more and more at the outer verge of the branches, and when the old trunks become almost destitute of buds it is best to cut them quite back and to train up young wood that will ultimately bear freely.

Those who are furnishing new walls with trees will have done well if they followed our instructions and selected their trees in the nursery early in the season. If well-trained four-year-old trees are planted they will come into bearing the second year after planting. It is the practice with many gardeners to cut back the young growths of last year very severely. If the trees are healthy and well furnished with roots this is not a wise plan. The young wood should be cut back to two-thirds of its length only, and the branches must not be nailed to the walls until the ground where the trees are planted has subsided. Peaches and Nectarines are usually the last to be nailed. If the young wood has been attacked by aphid or scale it should be well washed with strong soapy water. All planting should be finished as speedily as possible. Gooseberry, Currant, and Raspberry bushes should be planted, and the ground mulched to keep frost from the roots. If the canes and bushes are planted in an exposed situation it is well to place a stout stick to them to keep them steady in high gales of wind.

PINE HOUSES.

The time is now drawing nigh when the succession plants must be started. About the first week in January we move all the plants out of the tan bed, where the roots have been dry, and in a temperature of not more than 75° or 80°. We either use fresh tan entirely or sift the old stuff to separate the dust from the rougher portion. After mixing the rough portion that is left with any that has been obtained fresh from the tan pits level it down and then plunge the pots to half their depth, if deeper excessive heat may injure the roots. In six weeks or more the heat and tan subside together. A portion of fresh tan may be added to the surface, which will increase the heat again. The plants ought not to want for water after they are started, and the temperature of the house, which ranged from 55° to 60°, should not fall below 65°. The house should be damped twice a-day, and the surface of the beds may be occasionally syringed. In the houses where fruit is approaching the ripening stage, and others having fruit in various stages of development, the atmosphere must also be rather moist, and as yet much care must be exercised as to watering; if the compost becomes too dry the stem of the fruit shrivels, which causes premature ripeness and deficiency of flavour. If too much water is applied there is a probability of the fruit becoming black at the core. This mischief is also caused by giving too much manure water. We always apply manure water with caution to Pines, and especially so in the winter. The house where the young suckers are kept will not have more heat than 55° or 60° until the first week in February, when the temperature may be advanced to 65° as a minimum. After keeping up this temperature until the middle or third week in February the Pines may be potted.

GREENHOUSE AND CONSERVATORY.

We have been tying out and placing sticks to plants of various kinds, and it is well to push forward all work of this kind when time can be spared for it. Stage Pelargoniums that were potted a few weeks ago have now taken hold of the fresh compost and are making sturdy growths; the plants are not large, else it would have been necessary to place a stout wire round the pots at the outer limit of the branches; this can easily be done by placing sticks across the rims of the pots and making them fast. In our case it was only necessary to fasten a piece of rope yarn under the rim and to tie down the shoots to this, thinning them out where they were crowded. Some care is necessary in bending them down not to pull the shoots too much, else they are likely to snap off. We just give sufficient water to keep the soil moist and not to allow it to become too dry. If too dry the older leaves are likely to become yellow and must be picked off, and too much moisture causes spot. Fumigate to destroy green fly. Cinerarias are growing vigorously, and must be kept in a house close to the glass; air must be admitted freely, but the plants are much injured if they are placed in a draughty place. A dry atmosphere is not suitable for them. Give weak liquid manure water occasionally if the pots are filled with roots. That made from cow manure is the most suitable. Coronilla glauca and Cytisus racemosus are valuable for producing flowers now and onwards until other flowering plants are more plentiful. The bright yellow flowers are very striking, and the plants are very easily grown. Heaths and Epacris that flower at this season must be taken care of. The withered and mouldy

flowers must be removed, as they have a tendency to produce decay.

The first batch of Hyacinths, Tulips, and Polyanthus Narcissus have been placed in gentle heat, and they are growing freely. Other spring-flowering plants, such as Deutzias, Spiræa japonica, and other hardy-flowering shrubs may be placed in heat, also a few Roses; a very gentle bottom heat with a temperature of 55° will cause the plants to grow freely. But we find that the growths are weak and flowers are not freely produced unless the plants are kept rather close to the glass. It is not wise so early in the season as this to place plants in the house to force, that have not been properly prepared. They are prepared by being established in the pots some time before they are forced, so that when they are excited to grow the roots are ready to supply sap.

By judicious management and very little expense a few Tea Roses may be in flower now. The plants should be placed in an airy house with a night temperature of about 55°, and air should be admitted as freely as may be deemed desirable. The outer petals are apt to become mouldy if the temperature is not high enough and the air about the plants is stagnant. Some of the Tees are bad openers, and some are not so useful for cutting as others. Niphetos and Safrano are the two most employed by the bouquetists in Covent Garden. Beautiful buds of those two may now be seen in the windows with sprays of Euphorbia jacquiniiflora, the small Roman Hyacinths, and other neat little flowers; indeed, many of the small button-hole-bouquets are rather overdone with these small flowers. A neat fresh Rose bud with its own bright glossy green leaves would be more esteemed by a person of taste.

FLORIST FLOWERS.

Little can be said about these at this time, except that Auriculas require to be looked over to remove all the decaying leaves, and to scratch over the surface of the pots if moss is growing. Whether or not, it does good just to scratch the surface each time the plants are picked over. There are few frames where drip is not to be found, and we have had valuable specimens quite sodden at midwinter through being placed under the place where water has dripped into the pot in wet weather. Carnations and Picotees also require looking over in the same manner. We have not thought it necessary to protect the Tulip beds from wet; there seems no reason to do this in our district. In wet heavy soils the growers have iron hoops bent over the beds, and some sort of canvas is hung over them to throw off the rains and protect the plants coming through the ground from frosts.—J. DOUGLAS.

TRADE CATALOGUES RECEIVED.

Sutton & Sons, Reading.—*Amateurs' Guide in Horticulture, and General Catalogue of Vegetable and Flower Seeds, Potatoes, &c. (highly illustrated).*

James Carter & Co., High Holborn, London.—*Vade Mecum and General Catalogue of Vegetable and Flower Seeds, Potatoes, &c. (highly illustrated).*

TO CORRESPONDENTS.

* * All correspondence should be directed either to "The Editors," or to "The Publisher." Letters addressed to Mr. Johnson or Dr. Hogg often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

BOOKS (*Fantail*).—Leighton's "Lichen Flora," and Berkeley's "British Mosses." (*A Constant Reader*).—The two dictionaries are one and the same. (*Cuskin*).—"Outdoor Gardening" and "Indoor Gardening." You can have them by post if you enclose 3s. 6d. in postage stamps.

BEGONIA (*C. F.*).—We cannot name florists' varieties, they are too numerous and nearly alike.

VINES FOR COOL HOUSE (*R. A. P.*).—Black: Black Champion, Black Hamburg, Mill Hill Hamburg, and Black Frontignan. White: Buckland Sweetwater, Foster's Seedling, Dr. Hogg, Royal Muscadine. We did not receive your former letter. Many letters have recently been wrongly delivered, and it is only by the courtesy of our neighbours that we have received important communications which have been addressed to us. Replies to correspondents are usually given in about a week after the questions are received.

VIOLETS (*E. L. P.*).—The correspondent you name is not a dealer.

GRUB (*A. Wilson*).—It was entirely smashed. Probably it is the grub of the Diddy-longlegs.

HEAT IN VINERY AT REST (*Amateur*).—You may keep the house as a warm greenhouse. Do not let the temperature fall below 45° or rise over 50° during the winter. Begonias and many species of Ferns would be safe in such a house. Roses will be quite safe in a cold frame until spring.

CROPPING VINES (*Idem*).—Old Vines that have been forced and heavily cropped for twenty years will be well nigh exhausted. As the roots have gone down 8 feet below the surface you might try what effect raising them nearer the surface would have. They will never succeed so well as young Vines.

DOUBLE PRIMULAS (*Idem*).—If you intend to grow double Primulas for exhibition it will be necessary for you to obtain all the varieties that you

can. You must grow them near the glass in a cool house or glass frame facing north. Good yellow loam, with a little decayed manure, leaf soil, and lime rubbish, is the best compost for them. The size of the plants must be an index to the size of the pots. Exhibition plants ought to be large enough to be exhibited in 8-inch pots.

ROSES FOR FORCING (*Sir Ashley*).—The first lot to be started in January from your list should be Anna Alexieff, Madame Victor Verdier, John Hopper, Paul Neyron, Dupuy-Jamain, Jules Margottin, Victor Verdier, Dr. Andry, Midle, Marie Bady, Comtesse d'Oxford, and La France. For the second lot take Henry Bennett, Madame Lacharme, Baron Haussman, Abel Carrière, Camille Bernardin, Thomas Mille, François Courtin, François Michelon, La Rosière, Duc de Rohan, and Maurice Bernardin. For the last lot Duchesse de Caylus, Pierre Notting, Duke of Wellington, Alfred Colomb, Capitaine Christy, Sir Garnet Wolseley, President Hardy, Thyra Hammerick, Lord Macanav, Jean Cherpin, Madame Thérèse Levet, Fisher Holmes, Sir J. Paxton, Duc de Montpensier, and Etienne Levet.

WINTERING TUBEROUS-ROOTED BEGONIAS (*M. A.*).—They rest in the winter, and should not be excited by being placed in heat. Keep them in a dry cool greenhouse or cold frame.

CULTURE OF ORCHID (*Donna Serafina*).—We do not know Dendrobium Harrisonii. Have you not made a mistake in the name? Send us a leaf and that may assist us.

NAME OF SEED (*M. D. D.*).—The seed is from a species of Momordica, and it is probably *M. Charantia*. It answers well to the description you give; and, further than your letter describes, the seeds are immersed in scarlet pulp. The bursting of the fruit, especially to expose a brilliant interior, is unusual in the family of Cucurbita. It requires to be sown in bottom heat about the middle of March, and, like all of the Cucurbit relationship, must have an unchecked growth onwards to maturity. A little later sowing should be made if there is any danger of check. Rough loam enriched with a little manure forms the best compost. Place two plants well down to the seed leaves in a small 60-pot and plunge in bottom heat, thence when required shift into a 32-sized pot, then into a 24, and at last into as large a pot as convenient. Let there be good sticks for the support of the stems from the first, for they never properly recover the bruising of a disentanglement. A warmer temperature than of a greenhouse is requisite, though stove temperature is rather too high. A greenhouse may be kept close to suit its requirements.

NAMES OF FRUITS (*Somerset*).—The numbers were all shaken from the Apples when they arrived, the strings having slipped off. The best way is to stick the numbers on with pins or wrap each specimen in a separate piece of paper on which the number is written.

NAMES OF PLANTS (*W. W. A.*).—1, *Asplenium marinum*; 6, *Pteris serrulata*; 8 and 4, forms of *P. cretica*; 7, *Selaginella uncinata*; *Polypodium Phymatodes*; *Pellaea foliata*. (*J. T. H.*).—1, *Cheilanthes myriophylla*; 6, *Pellaea quadrifida* var. *argyrea*; 7, *Adiantum formosum*.

POULTRY, BEE, AND PIGEON CHRONICLE.

NORTHALLERTON SHOW OF POULTRY, &c.

The first winter Show took place at Northallerton on the 19th and 20th inst. The entries were unusually large, there being about 830 pens. The birds, &c., were spread over six rooms, and no show, owing to the absence of light, was more difficult to judge. In the large varieties of poultry a pen of splendid Buff Cochins won the cup, and for Hamburgs, Game, and Bantams a pen of Piles won. The Selling classes were very good, the entries large and many birds claimed. Pigeons were still worse placed for light and inequality as to position, some being not less than 8 feet high, while others were near the floor. They were very good; the Dragons contained no less than forty entries.

Cage Birds were neatly arranged in a small room and were a very pretty display, the Norwich Canaries being specially good and well shown. Lizards were all noticed, and Silvers won the prizes. In British Birds a capital Goldfinch was first, and Thrushes second and third.

Rabbits and Cats were also well exhibited.

POULTRY.—BRAHMAS.—J. F. Cass. 2, H. Beldon. 3, J. T. Smith. COCHINS.—1, Special, and 2, G. H. Proctor. 3, J. North. DORINGS.—1, E. Barker. 2 and 8, C. Widdas. FRENCH.—Dr. Macrae. 2, W. Jackson. 3, Rev. G. Deane. SPANISH.—1, H. Dale. 2, J. Thresh. EXTRA 2, G. Thomas. LEGHORNS.—1, Bradbury Bros. 2, T. W. Richardson. 3, W. T. Robson. POLANDS.—1, H. Beldon. 2, C. Walker. 3, Dr. Macrae. GAME.—Black or Brown Reds.—1, W. Rudd. 2, J. B. Dale. 3, W. Younghusband. Any other variety.—1 and 2, W. Rudd. 3, C. Venables. HAMBURGS.—Golden-pencilled.—1, T. P. Carver. 2, H. Pickles. 3, J. Smith. Silver-pencilled.—1, H. Beldon. 2, H. Pickles. 3, G. Waite. Golden-spangled.—1, H. Pickles. 2, H. Beldon. 3, Holmes & Destner. Silver-spangled.—1, H. Beldon. 2, G. Waite. 3, G. Alderson. BANTAMS.—Game.—1, W. Rudd. 2, Mrs. C. Porter. 3, E. Barker. Any other variety.—1, J. W. Crowther. 2, T. P. Carver. 3, H. Pickles. ANY OTHER VARIETY.—1 and Special, H. Beldon. 2, T. Newlands. 3, C. Atkinson. DUCKS.—Aylesbury.—1, F. E. Gibson. 2 and 3, J. J. Gunn. Rouen.—1, F. E. Gibson. 2, J. B. Braithwaite. 3, G. Garbutt. Any other variety.—1, G. Sadler. 2, C. Atkinson. 3, Rev. A. S. Webb. GESE.—1 and Special, G. Pounder. 2, C. Atkinson. 3, F. G. Rowson. TURKEYS.—1, T. Parker. 2, J. & W. Birch. 3, J. B. Braithwaite. SELLING CLASS.—Price not to exceed 2s.—1, J. Clayton. 2, Thurlow & Fanthorpe. 3, Rev. A. S. Webb. Price not to exceed 4s.—1, W. Dale. 2, G. Alderson. 3, G. Pounder.

PIGEONS (SINGLE BIRDS).—POUTERS.—1 and 2, E. Beckwith. 3, A. P. Byford. CARRIERS.—1, E. Beckwith. 2, J. Booth. 3, G. Winter. TUMBLERS.—Short-faced.—1 and Special, T. Horsman. 2 and 8, E. Beckwith. JACOBS.—1 and Special, W. Dale. 2, E. Beckwith. 3, E. Barker. 4, W. Dale. 5, E. Beckwith. 6, T. Horsman. 7, E. Barker. 8, E. Beckwith. 9, E. Barker. 10, E. Barker. 11, E. Barker. 12, E. Barker. 13, E. Barker. 14, E. Barker. 15, E. Barker. 16, E. Barker. 17, E. Barker. 18, E. Barker. 19, E. Barker. 20, E. Barker. 21, E. Barker. 22, E. Barker. 23, E. Barker. 24, E. Barker. 25, E. Barker. 26, E. Barker. 27, E. Barker. 28, E. Barker. 29, E. Barker. 30, E. Barker. 31, E. Barker. 32, E. Barker. 33, E. Barker. 34, E. Barker. 35, E. Barker. 36, E. Barker. 37, E. Barker. 38, E. Barker. 39, E. Barker. 40, E. Barker. 41, E. Barker. 42, E. Barker. 43, E. Barker. 44, E. Barker. 45, E. Barker. 46, E. Barker. 47, E. Barker. 48, E. Barker. 49, E. Barker. 50, E. Barker. 51, E. Barker. 52, E. Barker. 53, E. Barker. 54, E. Barker. 55, E. Barker. 56, E. Barker. 57, E. Barker. 58, E. Barker. 59, E. Barker. 60, E. Barker. 61, E. Barker. 62, E. Barker. 63, E. Barker. 64, E. Barker. 65, E. Barker. 66, E. Barker. 67, E. Barker. 68, E. Barker. 69, E. Barker. 70, E. Barker. 71, E. Barker. 72, E. Barker. 73, E. Barker. 74, E. Barker. 75, E. Barker. 76, E. Barker. 77, E. Barker. 78, E. Barker. 79, E. Barker. 80, E. Barker. 81, E. Barker. 82, E. Barker. 83, E. Barker. 84, E. Barker. 85, E. Barker. 86, E. Barker. 87, E. Barker. 88, E. Barker. 89, E. Barker. 90, E. Barker. 91, E. Barker. 92, E. Barker. 93, E. Barker. 94, E. Barker. 95, E. Barker. 96, E. Barker. 97, E. Barker. 98, E. Barker. 99, E. Barker. 100, E. Barker.

CAGE BIRDS.—NORWICH CANARIES.—Yellow-marked or Clear.—1 and 2, H. Stebbings. 3, Stevens & Tennisswood. Buff.—1 and 2, J. Cleminson. 3, C. Burton. Evenly marked.—1, J. Cleminson. 2, C. Burton. 3, C. Greenwood. YORKSHIRE CANARIES.—1, R. Atkinson. 2, Stevens & Tennisswood. 3, T. Hutchinson. LIZARD CANARIES.—1, J. Cleminson. 2, W. Addison. 3, Stevens

and Tennisswood. CANARIES, ANY OTHER VARIETY.—1, T. Cleminson. 2, Stevens and Tennisswood. 3, J. Cleminson. MULE.—1 and 2, Stevens & Tennisswood. 3, Bell & sister. GOLDFINCH OR LINNET.—1, T. Cleminson. 2, T. Green. 3, T. Hutchinson. ANY OTHER BRITISH BIRD.—1, W. Burniston. 2, T. Mayne. 3, W. Archer. PARROT OR PARROCKET.—1, R. Pearson. 2, Mrs. G. Oliver. 3, R. Mais. ANY OTHER VARIETY.—1 and 2, W. Burniston. 3, J. Ward.

RABBITS.—LOP-EARED.—Buck or Doe.—1, G. F. Clarkson. 2, G. S. Nellist. ANY OTHER VARIETY.—Buck or Doe.—1, Misses Walker. 2, Miss Hailstone. 3, J. Hawkwel.

TORTOISES.—TORTOISESHELL AND WHITE.—1, E. Horner. 2, C. Graves. BROWN OR RED TABBY.—1, W. Jenkins. 2, E. Horner. BLACK OR WHITE.—1, W. Bailey. 2, W. Atfield. 3, S. A. Pocock. ANY OTHER VARIETY.—1, Rev. E. A. B. Pitman. 2, Mrs. R. Chapman.

LOCAL CLASSES.—TURKEYS.—Poults.—1, Mrs. Heslington. 2, Miss Booth. 3, F. Woodhouse. GOSSINGS.—1, T. P. Walker. 2, Miss Booth. 3, J. Collins. DUCKINGS.—1, H. Clay. 2, J. Oliver. 3, J. B. Braithwaite. CHICKENS.—Pure Breed.—1, J. White. 2, Rev. J. G. Raw. 3, J. Deighton. Cross Breed.—1, G. Carter. 2, Wetherill & Rickatson. 3, W. Bearpark. SELLING CLASSES.—Turkey or Goose.—1, F. Woodhouse. 2, J. Arrowsmith. 3, Mrs. G. Oliver. Ducks or Fowls.—1 and 3, Wetherill & Rickatson. 2, J. Clayton.

JUDGE.—Mr. E. Hutton, Pudsey, Leeds.

RIPON SHOW OF POULTRY, &c.

The third annual Show was held at Ripon on the 19th and 20th inst. in the Rifle Drill Hall. The judging, especially in the case of Pigeons and Cage Birds, had to be done by gaslight. Aquatic birds and Turkeys had the best light, as they were arranged in a spacious tent, where the dressed fowls, eggs, and butter were placed.

Dorkings were very good, but the *Cochins* much better. Almost every pen received a mention in *Hamburgs*. *Game* were a very good entry, as also were the *Bantams*. The two Selling classes contained forty entries.

Pigeons were well-filled classes in all cases. Carriers.—First Black and second Dun cock; a capital Black hen was very highly commended. Pouters.—First a very large White cock, very fine in girth and in good play; second Blue, rather short of wing-marking. Barbs a moderate lot. One of the best classes in the Show was the Almond Tumblers, almost all noticed. First and special a well-marked cock, the second losing in ground colour only. Any other Shortfaces, first a grand Agate and second a Kite, several others well deserving prizes. English Owls very good, the winners Blue. Foreign, first a very handsome White. Turbits, the first and special went to a fine Blue, the second also of that colour, and almost equal in quality. Trumpeters very good. The Long-faced Tumbler class was a good one, nearly every pen well worthy of a prize. Nuns were almost every bird extensively trimmed, consequently many birds were passed. In Magpies Reds won both prizes. Jacobs were a very good lot, the first very small. Fantails were one of the best classes we ever saw, the winners being exceptionally good in both tail and motion. Dragons were not as good as we see at most shows, but the two winners were very good in head. In the Variety class a very handsome Red Fairy Swallow was first and a Blondinette second. The Selling classes were very large and good.

Of *Cage Birds* there was an excellent display of 150, almost every one receiving a notice.

Rabbits had only thirteen entries and these of no special note.

POULTRY.—BRAHMAS.—1, H. Beldon. 2, G. A. Eastwood. DORINGS.—1, T. Swales. 2, T. P. Carver. COCHINS.—1, Special, and 2, G. H. Proctor. SPANISH.—1, J. Powell. 2, J. Thresh. POLANDS.—1, H. Beldon. 2, Dr. Macrae. HAMBURGS.—Golden-spangled.—1 and Special, W. Dodson. 2, H. Beldon. 3, T. P. Carver. Silver-spangled.—1, G. Alderson. 2, Robinson & Jagger. Silver-pencilled.—1, H. Pickles. 2, Robinson & Jagger. Black.—1, Robinson & Jagger. 2, T. P. Carver. GAME.—Black or Brown Red.—1, H. Mason. 2, W. Milner. Any other variety.—1 and Special, F. Sale. 2, Holmes & Destner. Single Cock.—1, F. Sale. 2, R. Craven. GAME BANTAM.—1 and Special, Mrs. Sellers. 2, W. Rudd. BANTAMS.—Any variety.—1, E. J. Booth. 2, R. Henderson. Any other variety.—1, C. J. Young. 2, T. P. Carver. FRENCH.—1 and Special, J. Johnson. 2, J. Graham. ANY OTHER VARIETY.—1, H. Conliffe. 2, R. Hawkins. SELLING CLASSES.—Cock, Drake, or Gander.—1 and Special, T. P. Carver. 2, S. Lucas. Hens, Ducks, or Geese.—1, G. W. Henshall. 2, J. Sherwin. LOCAL CLASS.—Any variety.—1, J. Sherwin. 2, T. H. Foden. TURKEYS.—1, T. Parker. 2, I. Moorey. GESE.—1 and Special, G. Pounder. 2, C. Atkinson. DUCKS.—Aylesbury.—1, C. Atkinson. 2, H. Beldon. Rouen.—1, F. G. S. Rawson. 2, J. Newton. Any other variety.—1, H. Beldon. 2, G. Sadler.

PIGEONS (SINGLE BIRDS).—CARRIERS.—1, E. Beckwith. 2, H. Yardley. POUTERS.—1 and 2, E. Beckwith. BARBS.—1, J. Thresh. 2, E. Beckwith. TUMBLERS.—Short-faced Almond.—1 and Special, H. Yardley. 2, E. Beckwith. Any other variety Short-faced.—1, R. & J. Anderson. 2, J. G. Spendlove. Any variety Long-faced.—1, H. Yardley. 2, Maud & Scott. OWLS.—English.—1, J. Thresh. 2, T. H. Stretch. Foreign.—1, G. Alderson. 2, J. Booth. TURBITS.—1 and Special, G. Sadler. 2, G. Alderson. TRUMPETERS.—1, R. Woods. 2, Beckwith. NUNS.—1, H. Beldon. 2, R. S. Mager. MAGPIES.—1, R. Woods. 2, Beckwith. JACOBS.—Red or Yellow.—1 and Special, G. Alderson. 2, J. Sherwin. Any other colour.—1, T. Holt. 2, E. Beckwith. ANTWERPS.—1, H. Yardley. 2, J. Booth. FANTAILS.—1, E. Horner. 2, E. Beckwith. DRAGONS.—1, E. Mawson. 2, J. Booth. ANY OTHER VARIETY.—1, H. Beldon. 2, T. Rule. YOUNG BIRDS.—1 and Special, E. Horner. 2, W. Bamforth. SELLING CLASSES.—Price not to exceed £2.—Single.—1, Beldon. 2, E. Beckwith. Price not to exceed £5.—Pairs.—1, T. Holt. 2, Beldon. Price not to exceed £1.—Single.—1, J. Sherwin. 2, J. Marshall. Pairs.—1, E. Beckwith. 2, S. Hill. LOCAL CLASS.—1 and Special, T. Horsman. 2, R. Bland.

CAGE BIRDS.—CANARIES.—BELGIAN.—1, T. Scully. 2, Stevens & Tennisswood. NORWICH.—Yellow.—1, C. J. Salt. 2, E. Arnold. Buff.—1, C. Burton. 2, C. J. Salt. Even-marked Yellow.—1, C. J. Salt. 2, Hampton & Cleminson. Even-marked Buff.—1, C. J. Salt. 2, E. Arnold. etc. Hampton & Cleminson. YORKSHIRE.—Yellow.—1, W. Goodhall. 2, J. Waite. Buff.—1 and 2, G. Turner. etc. W. Goodhall. ANY OTHER VARIETY.—1 and Special, Hampton & Cleminson. 2, R. C. J. Salt. etc. R. Atkinson. LIZARD.—Golden-spangled.—1, Hampton & Cleminson. 2, W. Addison. Silver-spangled.—1, Hampton & Cleminson. 2, J. Wilkinson. etc. Stevens & Tennisswood, Hampton & Cleminson, W. Addison. GOLDFINCH MULE.—1, Stevens & Tennisswood. 2, C. J. Salt. CANARIES.—Cage of Six.—

1, G. Frank. 2, W. Addison. *Any variety, local class.*—1, R. Atkinson. 2, T. G. Wray. *who.* J. Waite, R. Atkinson, T. G. Wray. *Any other variety.*—1, T. G. Wray. 2, C. Burton. *who.* R. Atkinson, Stevens & Tenniswood. *ENGLISH BIRD.*—1, J. E. Powell. 2, R. Atkinson. *FOREIGN BIRD.*—1, Mrs. R. Williamson. 2, F. Barwick. *PARROT—Grey.*—1, H. Wescoe. 2, G. Strodger. *Any other variety.*—1, R. Pearson. 2, M. Appleton. *SELLING CLASS.*—1, Land Special, C. J. Salt. 2, Hampton & Cleminson.

RABBITS.—*LOP-EAR.*—1, T. & E. J. Fell. 2, J. Taylor. *ANY OTHER VARIETY.*—1, H. Lund. 2, J. W. Moses & Oscar.

JUDGES.—*Poultry:* Mr. J. Dixon. *Pigeons, Cage Birds, and Rabbits:* Mr. E. Hutton.

SOUTH LONDON POULTRY SHOW.

MR. HALL's third Show was held at the Great National Recreation Hall, Westminster Bridge Road, better known as the Lambeth Baths, on Thursday last and following days. The place is much better adapted for the purpose of a show than the Bermondsey Working Mens' Club, the building in which the Show was held last year. The object of the Show is, we believe, to give the working men of South London, who are unable to pay the large entry fees of the other London shows, an opportunity of exhibiting their specimens. The Secretary was, we believe, firm with regard to the objects, and would not kill "the goose that laid the golden eggs," and declined the entries of a large exhibitor, who would have doubtless carried all before him and left those for whom the Show was specially designed with a simple card for their entry fees. Many alterations could have been made that would have contributed to the comfort of the birds, but the suggestions have, we believe, been made to the Secretary, and if the Show is continued we believe an effort will be made to accomplish all that is desired.

Dorkings have so many requirements that London could hardly be expected to furnish the winners, which were nice birds, but we liked the third-prize much better; the hen in this pen was worth all the class. *Spanish*—This was a really fine class, and also the prizes went to London exhibitors, the first also obtaining the cup for best pen in Show. *Cochins* a fine lot; the winners nice White, a little creamy; second Buffs. Pen 22 we thought should have been in the prize list. *Brahmas* were not up to our expectations. *Game* a capital class. *Foreign*—We were at a loss to understand the term. *Houdans* first, but we did not like them; the cock's spurs were growing outside his legs. Pen 71 (highly commended) we thought much the best pen in the class.

The *Pigeons* were, as might have been expected, much better than the poultry, and they appeared well judged.

Rabbits were largely represented, and the quality marvellously good. The exhibitors here appeared also quite satisfied with the awards.

PRIZE POULTRY.—The fine collection of poultry bred by Mrs. Acton Tindal of Aylesbury was sold by auction on the 14th inst. by Messrs. Reader & Son. There was a large attendance of buyers. The following are some of the prices obtained:—A Buff Cochins cock, winner at the Crystal Palace Show in 1875, fetched £11 11s., bought for Lady Gwydyr. Lot 66 was a Partridge Cochins cock, which took the first prize at Aylesbury, first prize at Altrincham, and several other shows; it realised £5 5s. Several of the Partridge hens and pullets fetched £3 3s. each. A fine lot of White Cochins brought high prices. One prize cock was knocked down for £17 17s., and another for £13 2s. 6d.

RABBIT FEEDING.

No animal is so free from disease as the Rabbit when allowed to follow its instinct in the procuring of its food; but when shut up between four walls or four boards, and unable to eat tonic and other herbs which Nature has taught it are necessary for the preservation of health, its health is apt to be deranged. To prevent this it is necessary to keep Rabbits supplied with food of such a character as shall keep them in health. The bowels are easily deranged, so that care should be taken to guard against any danger in that respect. Too much dry food will cause constipation and skin disease, while an excessive supply of green food will relax the bowels and pull the animal down in health and strength. The quantity of each kind of food should be kept in proportion, and the whole should be regulated by the amount of exercise and the health of the recipient.

Passing over the directions for feeding young Rabbits and for fattening we will direct our attention to the proper supply of food to adult Rabbits, whether they are breeders or kept for exhibition. We have in a recent number given full instructions as to the best sorts of troughs to use, and a good selection of these articles will save much money and trouble. If ever the Rabbit refuses to eat great care should be taken to examine the troughs and see if anything is wrong there. If not, the mistake must have been made in the food, and a change should be tried.

Every keeper of Rabbits knows that there are two kinds of food—the dry and the wet. Rabbits are seldom treated to water. Sometimes a little water is given for a treat now and

then, and occasionally, but very rarely, a rabbitry is found where water forms one of the regular articles of diet. Advocates of water make a great point of the fact that wild Rabbits drink a great deal and are often seen near shallow pools. They forget two very important facts: First, a Rabbit when wild has much exercise, and can also eat herbs of a drying nature. Besides this, in damp weather dead Rabbits are often found in Rabbit warrens, and generally near water. If these are dissected it is generally found that their death has been caused by over-drinking. These circumstances should make the addition or provision of water the question of grave consideration, especially when it is borne in mind that not one in a hundred of the exhibition Rabbits ever tasted any. The only time that a little water is advisable is to a doe just before kindling. A little damp food may be given with advantage, and milk is better than water in that case.

The staple food should be dry grain, such as oats, barley, buckwheat, &c. Oats are good for muscle-producing, and at the same time keep the Rabbit in good condition. Barley is a little too much inclined to be hot to be given too often. It is more inclined to fatten than to strengthen, and should not be given to growing Rabbits. Buckwheat is good bruised. Oats are the cheapest food; they can be bought at from 4s. to 5s. per bushel, and a bushel will last a long time in a small collection. They should be given dry in a trough kept on purpose for dry food, so that there will be no smell, as the Rabbits are very sensitive on this point. Some Rabbits take very well to oats, and will take them before almost any dry food; others do not seem to care much for them. In order to make them more savoury it is as well, and in fact necessary, to adopt some kind of relish. Tea leaves are very popular with Rabbits, and are very good for a treat. If a handful is squeezed pretty dry and mixed with the feed of oats the whole will be eaten with great relish. In this case care should be taken that the two are well blended, or the oats will not get much eaten. This mixture should not be given in an open trough, or the Rabbits in hunting for the tea leaves will scatter the whole contents on the floor. A safety top such as that described in a late number should rather be adopted. Soaked bread is sometimes mixed with the oats and makes a good change. Barley should be given crushed or soaked. Bran and pollard are also very good for food; they can be bought very cheap and should be mixed with meal. A handful of meal, oat or barley, to three times the quantity of bran or pollard and mixed warm with water or milk will make a good occasional meal, though it is hardly to be recommended for a regular food. Barley meal is especially fattening, and should be used more for putting a Rabbit into condition than as a staple food. Bran alone is not good for food, being very light and tasteless.

If no liquid food is given to the Rabbits care should be taken to cater for their wants with herbaceous food. Turnips and carrots are very useful. Both the tops and the bottoms may be given. Turnips are very hot and should not form a large share of the diet, but carrots are both strengthening and may be given frequently. Scrape the dirt from the roots, and cut out any decayed portions. The tops may be given pretty freely. Cabbage stalks and leaves are very easily obtained and very good, the former especially. Lettuce, endive, parsley, chicory, and a score of other plants may be given at discretion. If the leaves are damp they are very apt to cause looseness; they should therefore be dried a little before using. Three times a day the Rabbits should all be supplied with food, which should be of different sorts so as to create an appetite. If any food is left in the trough it should be thrown away and the trough carefully washed. A little oilcake or a dry crust or two may be given at intervals for a change. Regularity in the times of feeding is also very important.—GETA.

DORSET POULTRY, PIGEON, AND CAGE-BIRD SHOW.—It will have been seen in our advertising columns that this is to take place on the 16th and 17th proximo. The prizes amount to £300, including thirty silver cups and pieces of plate.

BAR-FRAMED HIVES AND THEIR MANAGEMENT.

No. 2.

PRESUMING, then, that hives of wood are on every account the most handy, useful, and durable for all purposes of bee-keeping—proved to be so by the fact that ninety-nine out of every hundred educated bee-masters use them—I pass to the question of size and shape, as to which there is some variety of opinion. As to size I cannot alter the opinion I have formed after an experience of many years:—"Large hives for places rich in honey pasturage, smaller hives for localities badly furnished with nectar-producing flowers." A correspondent in a recent Journal thinks I have misunderstood Mr. Pettigrew's argument in favour of large hives everywhere and under all circumstances. I do not think I have done so, nor does his explanation convince me differently. No doubt a hive may be so very small as to limit injuriously the breeding powers of the queen, but I am

no advocates for a very small hive, nor ever have been. Taking Mr. Woodbury's average size as the minimum and Mr. Pettigrew's as the maximum, there will be no perceptible difference in the population of those hives when autumn is over, supposing them to have started fair in the spring with queens of equal power and bees and food in equal proportions, also supposing that they are treated exactly alike. They will start alike the following spring (errors and mishaps allowed for), and the harvest will be according to the supply, and likewise the consumption of food will be more or less according to the population. A very large hive with a very large population no doubt gathers more honey than a smaller hive with a less population; but then also it will consume honey in proportion, and in bad seasons, or where there is unfavourable pasturage, it will often starve where the other will live and thrive, not to speak of the tendency of bees to make an excess of comb, which will be favourable certainly to a large development of brood, but which will as certainly cause a wasteful consumption of honey in the process of unnecessary wax-formation.

Not many weeks ago one of your correspondents gave some account of what may be called a telescope hive. Being large in itself it was so constructed as to admit of contraction in autumn by means of dummy slides or partitions. I have just constructed one of these to carry sixteen bars. It is of exactly the same width and depth as the ordinary bar hive of Mr. Woodbury. The only difference is in its length, which obviously can be extended *ad libitum*. I do not think I have exactly hit the proper length for the admission of the additional six bars as described by your correspondent. On examination I find my hive to be $22\frac{1}{2}$ inches long, inside measurement. Here then is a hive which might be called "the peacemaker," as it combines the two contending principles and allows scope for the working of each under varying circumstances of years and pasturage. I mean to give it a fair trial during the approaching summer, and have no doubt whatever as to its meeting all the wants of the educated bee-keeper of century nineteen. It is plain to the simplest understanding that this hive can be enlarged to the fullest capacity of the Pettigrew lippen, and comb contracted to the smallest dimensions consistent with the safe working of even a weak cast.

The eight bars in the centre would suffice for winter storage and use, when the two ends marked off by the dummy partitions could be filled with shavings, so making the centre snug against severe frost. If the bees were exceptionally strong one of these partitions could be removed and space for twelve bars allowed to the bees. There is, moreover, ample room overhead for two large supers or almost any number of sectionals. Nor is it a mere speculation as to whether this hive is good or not. Its great success last year in so bad a season verifies literally the proverb "the proof of the pudding is in the eating."—B. & W.

BEES IN LONDON.

I do not understand bees, at least in the sense that skilled apianians understand them, but I admire their wonderful habits, their great industry, their sagacity and apparent intelligence. As a gardener I have tended them, cultivated them perhaps I may say, for their honey, the same as I have grown trees for their fruit; but trees I confess have received much more of my attention than bees. I have never killed the trees when gathering their fruit, but I have, with pain and regret, assisted to kill thousands of bees when gathering their honey. But that cruelty belongs to the past, and I have not indulged in a practice so relentless and rude since I commenced reading your pages. From the bee department of the Journal I have, like other gardeners, derived many a valuable hint and have had many an hour's pleasure in reading. From the poultry pages, too, I could not only tell that I have derived enjoyment but profit, for the putting into practice the advice therefrom gained I have had the reward of hard cash, which my henwife has duly appreciated. But I am wandering. My object in writing is to admit what I feel is a shortcoming on my part, for although I have been entertained and benefited by reading about poultry and bees, I have not in return attempted to entertain others. I have never before written a line on bees, and I am not sure that the present effort will not exhaust me; and I should not have written now had I not met with a surprise during the past summer of a kind that I do not remember to have seen published.

When we read about localities being unsuited for bees, of bad feeding grounds, and deterrent observations of that nature, an idea is fostered, I think, that our honey-gathering friends can only exist profitably on the purple heather-clad hills and amid fields of white clover. But is not the tone of such suggestions as we occasionally see rather a reproach on the bee-keeper—or killer, than on the bees? I think so. Bees, I am of opinion, will thrive almost anywhere if their owners will exercise the same amount of intelligence and industry that are displayed by the "insects." At any rate I know they will prosper in London, which suggests that they will increase and multiply,

and will store up honey in other places similarly destitute of clover and heather. When I refer to London I do not mean the suburbs, but a central and one of the most busy parts of the metropolis. Within a stone's throw of the north-west end of Charing Cross Railway Station in the Strand—that is, if you can throw high enough, is a small but flourishing apiary. The topmost room of one of the lofty buildings there contains birds and bees; it is, in fact, an aviary and apiary combined. The owner, who has a considerable business there, has a fancy for bees and for birds, which he personally attends to, and the results are highly gratifying. It was by the courtesy of an assistant that I was permitted to inspect these thriving London bees. I happened to attend on the day that a super had been taken from one of the hives—a splendid super of London-stored honey, yet bright and clear, which could not have weighed less than 85 lbs. The bees are kept inside the room and close to the window, which is closed with the exception of an aperture at the bottom of the sash for their egress and ingress. They go in streams across the Thames and return laden with the results of their smoky expedition. Where their feeding ground is it is not easy to determine, but it is certain that it is not on the heather nor among the clover.

The super was removed to a lower room when the door was closed, and the window was opened for the escape of the stray bees. They found their way out satisfactorily enough, but the assistant thought their movements rather slow. At every casual examination he found bees in the room, until at length he thought it rather "queer," and he examined more closely, and was not a little amused to find a continual stream of bees as busy as bees could be carrying back the honey from the super below to the parent hive above. London bees he thought were as "cute as London boys—always on the look-out for themselves." Their "little game" was stopped, and a fine take of London honey was secured by the loss of little more than a dozen bees.

This little narrative may perhaps interest your utilitarian bee-keeper Mr. Pettigrew, and may, perhaps, also encourage others who hesitate to keep bees because they have no clover. To my mind it proves how impediments vanish before intelligence and well-applied industry on the part of the bee-keeper, who, I think, is generally more to blame than the bees when failure occurs.—A COUNTRY GARDENER.

OUR LETTER BOX.

STOCK FOWLS (C. S.).—At this time of year, if all the eggs are required for sitting, a cock should not have more than four or five hens. In February he may have seven or eight, and in April and May a dozen. A cock of different blood would be desirable; but if the bird you have is in points preferable to any other you have in view we advise you to keep him for this year only. You need not fear any ill effects from the two cocks running with fourteen hens, but in May and June you would have to remove one of them. An 1875 cock would do well put with the pullets of last year, and that would enable you to put the young cock with the hens. The formation of walks in 1879, the different sexes being taken from the different runs, would probably be very successful.

FOWLS HARD-CROPPED (Constant Reader).—Give each a table-spoonful of castor oil.

METEOROLOGICAL OBSERVATIONS.

THE usual "meteorological observations" not having arrived at the time for going to press their publication must be postponed until next week. The temperature in London has been considerably lower during the last few days than previously, and there was a slight fall of snow yesterday (Wednesday) morning—the first snow of the winter.

COVENT GARDEN MARKET.—DECEMBER 26.

BUSINESS, as is usual immediately after Christmas, is by no means brisk, and there is no quotable alteration in prices.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples.....	3	6 to 5 0	Oranges.....	£ 10 0	0 0 to 10 0
Pigs.....	dozen	0 0 0	Peaches.....	doz.	0 0 0
Filberts.....	lb.	0 6 0 8	Pears, kitchen..	dozen	1 0 8 0
Cobs.....	lb.	0 6 0 8	Dessert.....	dozen	2 0 6 0
Grapes, hothouse..	lb.	6 6 0	Pine Apples.....	lb.	1 6 5 0
Lemons.....	£ 100	6 0 10 0	Plums.....	3	sieve 0 0 0 0
Melons.....	each	1 6 4 0	Walnuts.....	bushel	5 0 8 0

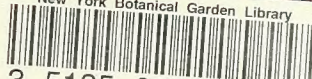
VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes.....	dozen	2 0 to 4 0	Mushrooms....	pottle	1 6 2 0
Beans, Kidney forced	£ 100	1 0 1 6	Mustard & Cress	punnet	0 2 0 4
Beet Red.....	dozen	1 6 8 0	Onions.....	bushel	2 6 8 6
Broccoli.....	bunch	0 9 1 6	Pickling.....	quart	0 4 0 0
Brussels Sprouts	3	sieve 2 6 0 0	Parsley.... doz.	bunches	2 0 0 0
Carrots.....	dozen	1 0 2 0	Parsnips.....	dozen	0 0 0 0
Cauliflowers.....	bunch	0 4 0 6	Peas.....	quart	0 0 0 0
Capsicums.....	£ 100	1 6 2 0	Potatoes.....	bushel	8 6 6 0
Cauliflowers.....	dozen	2 0 4 0	Kidney.....	bushel	5 0 7 0
Celery.....	bundle	1 6 2 0	Radishes.... doz.	bunches	1 0 1 6
Coleworts doz.	bunches	2 0 4 0	Rhubarb.....	bundle	0 6 1 0
Cucumbers.....	each	1 0 1 6	Sal-safy.....	bundle	0 1 0 0
Endive.....	dozen	1 0 2 0	Scazzonera..	bundle	1 0 0 0
Fennel.....	bunch	0 8 0 0	Seakale.....	basket	2 0 2 6
Garlic.....	lb.	0 6 0 0	Shallots.....	lb.	0 8 0 6
Herbs.....	bunch	0 2 0 0	Spinach.....	bushel	2 6 4 0
Lettuce.....	dozen	1 0 2 0	Turnips.....	bunch	0 8 0 4
Leeks.....	bunch	0 2 0 4	Veg. Marrows..	each	0 0 0 0





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